THE

MEDICAL EXAMINER,

AND

RECORD OF MEDICAL SCIENCE.

NEW SERIES.—NO. CVII.—NOVEMBER, 1853.

ORIGINAL COMMUNICATIONS.

Mortality of Philadelphia, for July, August and September, 1853, collated from the record kept at the Health Office. By WILSON JEWELL, M. D.

The total of deaths for the quarter ending October 1st, 1853, a period of 91 days or 13 weeks, amounts to 2955, equal to 32½ deaths per diem. An increase over the same quarter in 1852 of 204 in the aggregate, or about 7 per cent.

If we deduct the Still Born 137, the deaths from External Causes 124, Old Age 30, Debility 116, and Unknown 60, it gives us a record of 2488 deaths from reported diseases. Nevertheless, it will be borne in mind, that this is a mere approximation to the truth, owing in a great measure to the too frequent disregard by many practitioners, of the proper investigation of disease, and the cause of death and to the *ad libitum* manner of certification.

The excess of deaths in the sexes has been, as usual, on the side of males; equal to ten per cent.

Thirteen hundred and seventy-two, or nearly one-half the whole number of deaths, exclusive of Still Born, were under five years of age.

The record during the present quarter shows a considerable increase of mortality over that of the two previous quarters, amounting to 16 per cent, above the first, and 25 per cent, above the second quarter.

This augmentation, notwithstanding the absence from the city of many of our citizens, is the result generally of infantile mortality, during the *summer solstice.* But the present quarter's increase has been somewhat enhanced from the more than usual prevalence of Fever, in a certain locality of the city.

Class 1st.—Embracing the "Zymotic or Epidemic" diseases, furnishes 999 of the deaths for the quarter. Of this number, Cholera Infantum supplies 308, Dysentery 248, and Fevers of every division 266. Among the Fevers, 134 are set down under the head of those usually ascribed to malarious causes. This is a marked excess above those for the same period in 1852, when only 26 deaths were recorded from a similar cause. Last year there was an entire exemption from any Zymotic influence. The present quarter's unfair comparison in this respect, with the figures of other years, must be attributed in no small degree to the existence of an unusual poison in the atmosphere.

This poison has been productive of a highly malignant type of Fever, which not only assumed the livery of, but was in fact Yellow Fever itself. Of these, only 24 are recorded as Yellow Fever, while the remainder are put down under various other heads, as Typhus Icterodes, Malignant, &c.

It is proper to observe, that while the cases of Fever have increased in an undue proportion, over those for the same quarter in 1852, the comparative aggregate of deaths in the first class for the present quarter has only exceeded those of 1852, nineteen!

Class 2d.—"Sporadic." Of these, there were 400 deaths. Nearly one half occurred within the first year of life. Among them, 91 were from Marasmus, 48 from Debility and 22 from Inanition.

Class 3d.—"Nervous System." In this division, convulsions, that formidable cause of mortality in children, are credited with 165, out of the 509 deaths enumerated. The comparative increase of deaths from "sun stroke," (numbering 33, which,

added to those for the second quarter, 24, making in all 57,) above those for the year 1852, which only numbered 5, is an evidence of the high thermometrical atmosphere under which we lived during the summer.

Class 4th.—"Organs of Respiration." Under this general distinction, we find the deaths from consumption of the lungs amounting to 282, an increase over those of the same period for 1852, of 30, or nearly eleven per cent.

Table No. 3 exhibits the number of death at fifteen separate periods of life. Here we find that infancy supplies a very liberal proportion, not less than 1,372 occurring before the fifth year. Between the ages of twenty and fifty there were 833 deaths, showing that these distinct periods of infancy and manhood are fruitful in the production of death.

The deaths from the Alms House numbered 221. Those among the blacks 175, while there were 35 brought from the country to swell our city mortality.

TABLE No. I.

Deaths for the Third Quarter of 1853, *classified.*

	July.	August.	September.	MALE. J.	MALE. A.	MALE. S.	FEMALE. J.	FEMALE. A.	FEMALE. S.	Total.
1. *Endemic and Contagious Diseases.* Zymotic or Epidemic . .	314	446	239	169	249	118	145	197	121	999
2. *Uncertain or general seat.* Sporadic diseases	134	149	117	75	72	61	59	77	56	400
3. Nervous System . . .	153	231	125	84	146	72	69	85	53	509
4. Organs of Respiration . . .	115	157	145	55	67	65	60	90	80	417
5. " Circulation . . .	12	19	13	3	8	7	9	11	6	44
6. Digestive Organs . . .	64	79	38	30	42	22	34	37	16	181
7. Urinary Organs . . .	4	4	1	1	4		3		1	9
8. Organs of Generation . .	9	10	13				9	10	13	32
9. " Locomotion . .	1	3	1	1	3				1	5
10. Integumentary System . .	3	1	4	2	1	3	1		1	8
11. Old Age	11	9	10	6	2		5	7	10	30
12. External Causes	37	56	31	26	42	19	12	14	11	124
Still Born	44	47	46	21	23	22	23	24	24	137
Unknown	19	24	17	9	15	13	10	9	4	60
	920	1235	800	482	674	402	439	561	397	2955

TABLE No. II.

1. *Endemic and Contagions Diseases—Zymotic or Epidemic.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Cholera Asphyxia	2								1	1								2
" Infantum	162	146	216	85	7													308
" Morbus	10	4	3			1				4	4			2				14
Croup	19	12	4	5	18	4												31
Diarrhœa	38	33	26	14	8	2	1	1	1	3	4	4	5		2			71
Dysentery	142	106	37	49	22	17	9	8	24	16	28	18	16	4				248
Erysipelas	3	5			1				3	4								8
Fever	3	4	2					1	2		2							7
" Bilious	17	10			1			1	8	5	2	2	5	3				27
" Congestive	1	3						1	1	1		1						4
" Continued		1			1													1
" Intermittent	3	2			1	1					1	1		1				5
" Malignant	8	7					1		4	2	6	2						15
" " Bilious	12	17						3	13	5	6	1	1					29
" " Remittent	1	1						1	1									2
" Nervous		1						1										1
" Pernicious		1							1									1
" Remittent	10	5		1	1	3	2	2	2	3		1						15
" Scarlet	15	19	5	5	13	9		2										34
" Typhus	16	14			1	1	1	6	5	7	4	4	1					30
" Typhoid	31	29			1	1	4	10	17	9	10	3	3	2				60
" Typhus Icterodes	9	2						2	9									11
" Yellow	11	13			1			2	12	6	3							24
Hooping Cough	14	25	20	11	6	2												39
Measles	1			1														1
Small Pox	5	2	4		1	2												7
Syphilis	2				1				1									2
" Congenital	1	1	2															2
	536	463	319	171	84	43	18	41	105	66	70	37	31	12	2			999

2. *Uncertain or General Seat.—Sporadic Diseases.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Abscess	6	3	1		2	1			1	1	2	1						9
" Psoas	1											1						1
Cachexia		2	1											1				2
Cancer	1	2								1			1	1				3
" Breast		4									1	3						4
" Lip	1								1									1
Cyanosis	2	5	6	1														7
Debility	45	71	48	4	3		1	1	5	8	4	8	18	10	4	2		116
Disease of Glands	1											1						1
Dropsy	16	18	1		2	3	1		3	8	3	2	6	2	2	1		34
Disease of Abdomen	1									1								1
Hemorrhage	3	1	1	1			1					1						4
Inanition	18	9	22	1					1		1			2				27
nflammation		2		1	1													2
" Glands (malignant)	1					1												1
Marasmus	85	60	91	40	10	1	1							1	1			145
Malformation	2	1	3															3
Melanosis	1										1							1
Melœna		1	1															1
Mortification		1							1									1
Tabes Mesenterica	9	5	4	5	5													14
Scrofula	11	5	1	1	4	2	1		3	1	1	1	1					16
Tumor, Abdominal		2												1	1			2
Ulceration, Throat	4		2		2													4
	208	192	182	54	29	8	5	1	15	20	13	18	26	18	8	3		400

3. *Of the Nervous System.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Abscess of Brain	1	1			1						1							2
Apoplexy	20	12							2	9	5	3	7	5		1		32
Concussion of Brain	1	1							1	1								2
Congestion "	49	21	15	9	9	2	1	4	5	13	1	7	3	1				70
Compression "	2	2		1						1	1		1					4
Convulsions	81	75	88	39	18	4	2		2	2		1						156
Coup de Soleil	25	8			1				10	12	6	2	1	1				33
Dementia		2							1				1					2
Disease of Brain	12	13	7	9	2	2	1		1	1	1				1			25
Dropsy of Brain	31	24	23	14	13	2	1		1	1								55
Effusion "	13	11	8	2	6	2			2	2		1	1					24
Epilepsy	3	2	1			2		1			1							5
Inflammation of Brain	24	17	13	8	4	5	2	2	2	1	3		1					41
Mania	1												1					1
" a potu	17	8							5	6	9	5						25
" Puerperal		1							1									1
Neuralgia	1	1	1						1									2
Neurosis	1								1									1
Palsy	13	7			1				1	2	2	5	1	2	5	1		20
Softening of Brain	1												1					1
Tetanus	4							1	2	1								4
Trismus		1											1					1
Tumors of Brain	2												1	1				2
	302	207	156	82	55	19	7	8	38	52	30	24	20	10	6	2		509

4. *Organs of Respiration.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Asthma . . .	1	2										1	1	1				3
Congestion of Lungs .	6	5	1	1	1			1	2	1		4						11
Consumption " .	127	155	6	11	5	1	3	30	89	58	40	21	11	7				282
Disease of Chest . .	1	1	1					1										2
" Lungs .	2	6	2	1				1	2	1	1							8
Dropsy of Chest . .	7	5			3					2		6		1				12
Effusion " . .	1	1									1				1			2
Hemorrhage of Lungs .	4	3							1	3	1	1	1					7
Inflammation Bronchiæ .	13	17	10	9	2				1		2		2	3	1			30
" Chest .	2	1	2					1										3
" Larynx .		3		1	1	1												3
" Lungs .	20	27	14	4	7	4			7	6	3	1	1					47
" Pleura .	1							1										1
Hectic Fever . .		1	1															1
Tuberculosis . .		3			1				2									3
Ulceration of Larynx .	1				1													1
" Trachea .	1				1													1
	187	230	37	27	22	6	3	35	104	71	48	34	16	12	2			471

5. *Organs of Circulation.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Aneurism of Aorta .	2									1	1							2
Disease of Heart . .	12	16	4						6	7	2	2	4	2	1			28
Enlargem't " . .	2	5	1				2				2	1	1					7
Inflammation " . .		2							1	1								2
Malformation " . .	1	2	3															3
Ossification " . .	1									1								1
Syncope . . .		1							1									1
	18	26	8				2		8	10	5	3	5	2	1			44

6. *Digestive Organs.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Aphthæ		2	2															2
Cancer of Mesent'c Glands	1										1							1
Cancer of Stomach		1										1						1
Cancrum Oris		3	1	1	1													3
Cirrhosis Liver	2	1	1								1		1					3
Congestion "	1	1	2															2
Consumption of Bowels	4	2		1					1		2	1	1					6
Colic		2	2															2
Disease of Bowels		1	1															1
" Liver	1	2								1	1	1						3
" Stomach	1	3							2	1				1				4
Dropsy of Abdomen	2	3							2			2		1				5
Enlargement of Liver	3		1								1	1						3
Gangrene of Stomach		1			1													1
Hemorrhage of Bowels	1										1							1
" Stomach	2	2							1		1	1		1				4
Ileus		1		1														1
Induration of Liver		1							1									1
Inflammation of Liver	6	9		2	2				2	1	2	5	1					15
" Stom'h & Bow'ls	46	36	29	13	8	8	2		7	4	5	4	1	3	3			82
" Peritoneum	7	6	2		1		1		3	2	2		1			1		13
Jaundice	4	3		1	1					3	2							7
Obstruction of Bowels	3	1	2							1	1							4
Perforation of Intestines	1								1									1
Scirrhus Stomach	1											1						1
Sore Mouth	1		1															1
Teething	3	3	2	3	1													6
Ulceration of Bowels	2	1				1	1			1								3
" Stomach	1									1								1
" Stom'h & Bow'ls	1	2			1							1	1					3
	94	87	46	22	16	4	4		20	15	20	18	6	6	3	1		118

7. *The Urinary Organs.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Diabetes		1										1						1
Disease of Bladder	1									1								1
" of Kidneys	2										1		1					2
Inflam. of Kidneys		2	1						1									2
" of Bladder	1	1								1				1				2
Retention of Urine	1		1															1
	5	4	2					1	2		1	1	1	1				9

8. *Organs of Generation.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Amenorrhœa		1						1										1
Cancer of Uterus		3									2		1					3
Child Bed		4							2	2								4
Chlorosis		1							1									1
Disease of Uterus		1							1									1
Hemorrhage "		4							2	2								4
Inflammation "		1								1								1
Inverted "		1								1								1
Phlegmasia Dolens		1									1							1
Puerperal Convulsions		4						1	2	1								4
" Fever		8							6	1	1							8
" Mania		1							1									1
Rupture of Uterus		2							2									2
		32						2	17	8	4		1					32

9. *Organs of Locomotion.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Caries of Vertebra	1												1					1
Disease of Hip	2								1	1								2
" of Spine		1					1											1
Rheumatism	1								1									1
	4	1					1		2	1			1					5

10. *The Integumentary System.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Purpura Hemorrhagica	6	2	1	2	1		1	1	1		1							8

11. *Old Age.*

Old Age	8	22											3	9	13	4	1	30

12. *From External Causes.*

	Male.	Female.	Under 1 yr.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
Asphyxia . . .	7	4	10	1														11
Burns and Scalds . .	2	5		2	1	1			1		2							7
Casualties . . .	20	4	3		3	3	1	2	4	1	4	2	1					24
Drowned . . .	40	6				6	4	3	10	14	6	3						46
Fracture of Leg, . .	1							1										1
" of Pelvis, .	1								1									1
" of Skull, .	1									1								1
" of Spine .	1							1										1
Gun Shot Wound, .	2						1		1									2
Hydrophobia, . .		1							1									1
Intemperance . .	10	10							5	6	5	4						20
Poisoning . . .	1	2	1		1			1										3
Suffocation . . .		2	1	1														2
Suicide . . .	1	3							3	1								4
	87	37	15	4	5	10	6	8	26	23	17	9	1					124
Still Born . . .	66	71	137															130
Unknown . . .	37	23	28	1	3				4	10	6	7	1					67

TABLE NO. 3.

Deaths for the Third Quarter of 1853, *at fifteen distinct periods of life.*

Under 1 year, ...	794
1 to 2	363
2 to 5	215
5 to 10	90
10 to 15	47
15 to 20	97
20 to 30	342
30 to 40	276
40 to 50	215
50 to 60	151
60 to 70	112
70 to 80	70
80 to 90	35
90 to 100	10
100 to 110	1
	2818
Still Born	137
Total,	2955

Embraced within the foregoing tables, were 221 from the Blockley Alms House, 175 persons of color, and 35 from the country, as follows:

	July.	August.	September.	Total.
Almshouse, . .	57	93	71	221
Blacks, . . .	59	66	50	175
Country, . .	13	17	5	35
Total,	129	176	126	431

A Case of Traumatic Tetanus successfully treated by Anæsthetic agents. By T. F. Betton, M. D., of the Borough of Germantown, Philadelphia county.

On Thursday, September 22d, 1853, I was called to see a young man of some nineteen or twenty years of age, boarding at Rockville Place, (the residence of Capt. J. D. Miles,) in this borough. He was supposed to be affected with cholera, or yellow fever, and the alarm of the inmates of the house was not inconsiderable. I saw him about 6 o'clock, P. M., and found him laboring under intense pain in the nape of the neck and back of the head, and also in the right hypochondriac region, extending towards the epigastrium. The history of the case given to me was, that he had arrived in the 11 o'clock train from Philadelphia, and walked over to Rockville, a distance of one and a half miles, feeling very well; nothing peculiar was observed about him. He himself informed me that about 3 o'clock, P. M., feeling a desire to evacuate his bowels, on retiring for that purpose he was seized with great pain in the bowels, accompanied by vomiting and purging. These circumstances, with the addition of a violent convulsion, gave rise to the idea of cholera. When I saw him he was strongly convulsed and agitated by the spasms so characteristic of tetanus, (opisthotonos,) which I, at once, supposed the disease to be. On questioning him, however, as to whether he had recently received any sort of wound, he replied in the negative. I then concluded that I was mistaken, but his mind, up to that time, not being very clear, I determined to act on my first impulse, and treat the case as one of tetanus. I gave him, at once, a large dose of Hoffman's anodyne, and tr. valerian with tr. opii, the only remedies at hand. His spine was also freely rubbed with a liniment composed of aq. ammon. fort., ol. succ. rect., spts. terebinth, and tr. opii, in equal parts. A pill of one grain of calomel, and half a grain of opium, was directed to be given hourly. I visited him at 10 P. M., and found the spasms still as strong as ever, but his mind being somewhat improved, he informed me that some three weeks previously, (in this he was incorrect, it was but one week,) he had been hurt by a nail in his foot. On examining his foot, no mark of injury could be discovered, but great tenderness on pressure existed near the ball of the great toe. I made a deep incision in the

part affected, without any apparent benefit. Continued the remedies during the night, with the addition of tr. cantharid., and tr. capsici to the liniment.

Friday, 8 o'clock, A. M.—Condition worse. Inability to swallow, difficulty of speech, and, thinking himself dying, he had taken leave of his friends. Spasms increasing in frequency and intensity. Having provided myself with a mixture of three parts of sulphuric ether to one of chloroform, I instantly caused him to inhale it. The result was most gratifying. The spasm ceased as soon as the anæsthetic exerted its influence, and he became calm. In a few moments he was able to swallow some brandy and water. The original treatment was continued, with directions to let him inhale the ether whenever a spasm began to manifest itself. 3 o'clock, P. M.—Progressing favorably, spasms perfectly controlled by the remedies, which were continued. 7½ o'clock, P. M.—My friend Dr. Ashmead, of this borough, saw him with me, and approving of the treatment, it was continued. My friends, Dr. Squire, and Mr. Henry, student of medicine, having kindly consented to watch him during the night, he was left to their care, and I have sincere pleasure in saying that, to their judicious attention, skilful nursing, and management of the anæsthetic, his life is mainly due. A mixture of chloric ether and chloroform was freely administered during the night, (about every fifteen minutes for four hours,) whenever an indication of spasm was present. Beef tea and brandy and water were also given.

Saturday, 8 o'clock, A. M.—Much improved, free from spasm. Seven o'clock, P. M.—Doing well, had a slight spasm at eleven A. M., and one, more slight, at three, P. M., none since.

Sunday.—This day was passed in tranquillity, his appetite is good, and condition in every way favorable.

Monday, 9 o'clock, A. M.—Improving rapidly, and may be fairly considered convalescent. He has been entirely free from spasm for about forty-two hours.

Tuesday.—Has discharged his doctor, and considers himself well.

I now regret that I did not employ the chloroform on Thursday evening, instead of waiting until Friday morning, as he would have been saved some spasms. To the anæsthetic *alone* I

attribute his recovery, and its influence appeared almost miraculous. May it not be equally valuable in hydrophobia?

A Synopsis of a singular case of Transposition of Viscera, reported to the Medical Society of Delaware, at its Annual Session, held at Dover, June 8th, 1853. By HENRY F. ASKEW, M. D., of Wilmington, late President.

The subject was a little girl, æt. seven years, and daughter of —— ——, of the city of Wilmington, Delaware. During the month of March, 1853, she suffered for several weeks from an attack of typhoid fever, accompanied with periodical cephalalgia. From these she apparently entirely recovered, and on the 12th of June, she again became indisposed. Her illness was supposed to proceed from eating unripe fruit. Medical attention, however, was not sought until the afternoon of the 16th, and then on account of convulsions, which, though mitigated, were not entirely relieved, except by death. About twelve hours after death the following autopsic phenomena were revealed, viz., the dura mater strongly adherent to the cranium with exudation of lymph, the blood vessels exceedingly injected with dark blood, and spots of lymph beneath the dura mater. The ventricles contained a large amount of serum, and the substance of the brain appeared softened.

A considerable number of cherry stones were found in the alimentary canal; the glands of Peyer had been diseased, and were evidently healing. The mesenteric glands were greatly enlarged. The viscera of the thorax and abdomen were entirely transposed, so that the appearance was such as would be presented from a reflected surface. The apex of the heart was on the right of the median line, the aorta arching off to the right, and extending down the right side of the spinal column. The right lung had but two lobes, the left lung had three. The liver was mostly on the left side of the body, with the gall bladder also on the left side, whilst the spleen occupied its corresponding position on the right. The stomach had its cardiac orifice on the right and the pyloric on the left. The caput colli was attached to the left side, and the descending colon was on the right.

The health of both parents is good, and the size of the little

patient was such as generally corresponds to her age. Her health, until the attack of typhoid fever, had always been excellent, and no occurrence had ever led to the suspicion of the transposition which was developed.

"*On the frequent occurrence of Indigo in Human Urine, and on its Chemical and Physiological Relations.*" By ARTHUR HILL HASSALL, M. D. Physician to the Royal Free Hospital, &c.

[The following is an abstract of a very interesting paper, by Dr. A. H. Hassall, read at one of the late meetings of the Royal Society, London. Its publication may, perhaps, induce others to repeat Dr. H.'s investigations, with the object of defining more especially than he has done, the diseases in which the blue indigo occurs, so that the discovery may be applied to a practical purpose in diagnosis.] S. L.

The author was led to the investigations laid before the Society in the above communication, by the following circumstances:—

Some three or four years since, when examining urinary deposits under the microscope, he frequently observed in the field of vision, particles of a deep blue color; so often did this occur that he could not even then help suspecting that their presence was not accidental; however, no analysis of the blue coloring matter was made at the time, and the circumstance was in a fair way of being forgotten, until the recollection of it was revived by another occurrence.

In June 1852, a sample of urine, freely exposed to the air in an open vessel, was observed after four or five days, exposure, gradually to change color; the pellicle or scum which had formed upon the surface of the urine became first slate-color, and at length deep blue, with here and there a rust-red tint. The urine also underwent at the same time some remarkable changes; it became thick and turbid, deep brown, greenish, bluish-green, and finally of a faded yellowish-green color; a considerable sediment was found at the bottom of the glass; this was deep brown, intermixed with a little blue coloring matter, and it had a medicinal smell resembling somewhat that of *Valerian.* In this state, without undergoing any further material changes, the urine remained for many days.

Examined with the microscope, the scum or pellicle on the surface was found to consist of vibriones, innumerable animalcules, and crystals of triple phosphate, with a great many fragments and granules of a deep and bright blue color.

A second sample of the same urine was therefore procured, every precaution being taking to avoid fallacy. Gradually the same changes ensued as in the first sample, and this likewise became blue. Having thus ascertained that the changes observed were due to something contained in the urine itself, the author next proceeded to set aside in open vessels a series of urines all from the same patient, noting the alterations which occurred from day to day; these samples underwent nearly similar changes, but the quantity of blue coloring matter and brown extractive gradually diminished, until at length they were present in such small amount as to be visible only under the microscope, and at last they entirely disappeared.

The result obtained from an examination of the *urine*, the *blue coloring matter* and the *brown extractive*, are then given by the author; they are as follow:—

The urine.—The urine of the second sample at the time of analysis, when shaken, had a dark greenish-brown color; but on standing at rest for some time, the coloring matter fell to the bottom, forming bluish-green flocculi, while the supernatant liquid was of a deep wine-red color. The bottle was set aside corked, for ten days, at the end of which time the bluish-green precipitate had entirely disappeared; but on removing the cork and allowing free access of air for some time, the colored deposit was again produced. This was washed with water, drenched with hydrochloric acid, and finally dried; by this means was obtained a rich blue powder possessing all the chemical characters and properties of indigo.

The urine that was filtered off from the above precipitate was allowed to evaporate spontaneously, by which means it yielded an additional quantity, which adhered in the form of very small flakes to the sides of the dish. It also gave a rather large proportion of a deliquescent brown coloring matter, which was treated, first with alcohol, and then with water.

The alcohol acquired a deep brownish-red color, and the water a dark brownish-red green. Both of these solutions were evapo-

rated at a temperature of 160° Fahr. The alcoholic solution furnished a rich brown extractive which was soluble in water, but not in dilute acids, and nitric acid did not produce that play of colors which is characteristic of bile-pigment; nor did the precipitate formed with basic acetate of lead furnish a purple liquid with alcohol and free acid. A strong solution of potash dissolved the extractive and yielded a deep blood-red fluid, which was rendered green and opalescent by boiling. These reactions show that the brown pigment was somewhat like hæmatine in its chemical manifestations.

While the aqueous solution of the brown matter was undergoing evaporation, it gave a further supply of indigo, which was formed most freely at the edge of the liquid. The residue was made black by concentrated sulphuric acid, and deep brown by potash.

The blue coloring matter.—Of two samples of this in a dry state, mixed with a large quantity of earthy phosphates, vibriones, mucus, and epithelium, one gave a dark brown solution with concentrated sulphuric acid, and the other a dirty blue. Both of these solutions were decomposed by water, furnishing in the former case a dark brown deposit, and in the latter a dirty green. In most of their other reactions, however, they presented the characters of indigo; and it is especially deserving of notice, that they were reduced by lime and sugar, giving a liquid from which hydrochloric acid threw down a greenish-blue precipitate.*

The brown extractive.—The brown extractive yielded nearly the same results as on its first analysis, and the aqueous solution furnished a few blue flocculi. A portion of the alcoholic extract was heated with Liq. Potassæ for the purpose of ascertaining whether it contained leucine, and the product, on being treated with hydrochloric acid, gave off a powerful odor, which was somewhat like *valerianic acid;* but the result was too doubtful to be of much value. The author had already referred to the peculiar smell of *Valerian* emitted by the extractive of more than one of

* The cause of concentrated sulphuric acid giving with one of these samples a brown solution, and with the other only a dirty blue, was, the author considers, mainly owing to the large quantity of animal matter with which the specimens were contaminated; the acid from its charring effect on this, would produce a brown, or blackish solution, thus obscuring the color of the solution of indigo.

the samples. He considers that the clearest and most positive evidence was thus obtained that the blue coloring matter in this case was indigo.

It was not very long after the occurrence of the first case of blue urine that numerous other instances fell under the author's observation. The urines of all these cases underwent very nearly the same changes as in the first; in some the quantity of blue coloring matter found was very considerable, in others less; and in the third class of cases the microscope was necessary for its discovery. In nearly all these cases the blue coloring matter was submitted to analysis and ascertained, on the clearest evidence, to be indigo.

The author in the next place considers the question of the source and origin of indigo in the urine.

It appeared that in the cases related by the author, colored indigo was not present in the urine when first voided, but that it was gradually formed some time afterwards by a process of oxidation or exposure to the air, being in most of the cases probably derived from the brown extractive, which in its chemical manifestations so closely resembles hæmatine.

The author contrasts *cyanourine* with the indigo detected in urine. He observes that the most distinctive tests laid down for cyanourine are its solubility in boiling alcohol, and the action of sulphuric acid upon it, which gives a reddish-brown solution; and states that he had ascertained that these tests are not to be relied upon, since indigo, when contaminated (as in the urine it frequently is) with a large quantity of animal matter, vibriones, &c., gives a reddish-brown solution with concentrated sulphuric acid, from the charring of the animal matter, and in many cases forms a bright blue solution with boiling absolute alcohol; hence he could not help suspecting that cyanourine and indigo are very closely connected with each other, if they be not identical. He observes, it is at least singular that while so many cases of indigo were met with, not a single instance of cyanourine presented itself. He also contrasts indigo with apoglancine, and remarks that this is acknowledged by Heller himself to be nothing more than cyanourine mixed with urrhodine.

Take then into consideration the whole of the facts described in this communication, and the followiug conclusions are deducted:

1st. That blue indigo is frequently formed in human urine, the quantity being subject to the greatest variation; in some cases it is so considerable as to impart a deep green, or bluish-green color to the whole urine; a pellicle of nearly pure indigo also extending over the entire surface of the liquid; while in others it is so small that it can only be detected by means of the microscope.

2d. That for the formation of this indigo, it is in general necessary that the urine should be exposed to the air for some days in an open vessel, oxygen being absorbed and the blue indigo developed. Whatever, therefore, facilitates oxygenation, a free exposure to light and air, warmth and sunshine, hastens the appearance of the indigo; hence in summer the changes described take place much more quickly than in winter; on the contrary, the changes are retarded and even stayed by the exclusion of the atmosphere. Blue indigo may even be deprived of its color and reformed, alternately, according as air is excluded or admitted to urine containing it. From some of the cases recorded, it would appear, however, that blue indigo is occasionally formed in the system, and is voided as such in the urine.

3d. That there is usually found with the blue indigo, where the amount of this is considerable, a brown extractive, sometimes in large quantity, the aqueous solution of which, by exposure to air, yields a further supply of colored indigo, and which closely resembles hæmatine in its chemical manifestations and elementary composition. There is therefore great reason for believing that in the majority of the cases here recorded, the blue indigo was derived from altered hæmatine, although it is at the same time probable, that in some cases it is formed from modified urine pigment, which is itself supposed to be a modification of hæmatine. Between the greater number of the animal coloring matters there is the closest relationship in chemical composition, so that the transformation of the one into the other would appear to be both easy and natural.

4th. That the urines in which the colored indigo occurs in the largest quantity, are usually of a pale straw color, readily becoming turbid, alkaline, and of low specific gravity. Small quantities of indigo are however found in urines possessing characters the very reverse, that is, in such as are high-colored, acid, and

of high specific gravity; but as a rule, in these urines the blue pigment is usually absent.

5thly. That as colored indigo does not occur in healthy urine, and since, where the amount of this is at all considerable, it is accompanied with strongly-marked symptoms of deranged health, the promotion of blue indigo in urine, must be regarded as a strictly pathological phenomenon, apparently associated rather with some general morbid condition, than essentially with disease of any one organ; although there is reason for believing that the blue deposit is met with very frequently in Bright's disease, and in affections of the organs of respiration, it should however be remarked that none of the worst cases of indigo in the urine which the author met with, were cases of Bright's disease.

The paper is illustrated by drawings, and a specimen of the indigo, as deposited from urine, was exhibited.—*Philosophical Magazine*, Sept. 1853.

On the Diseases and Injuries of Seamen. By G. R. B. Horner, M. D., Surgeon U. S. Navy, Philadelphia.

Rubeola, Parotitis, and Tonsillitis.

During my whole term of active service, I have only known the crew of one vessel to be affected with measles, and that was the crew of the Delaware, who were infected at Norfolk just after she fitted out. The disease soon became epidemic, and was still lingering in her when I joined her three months after it first appeared. It principally attacked the boys, was accompanied with ordinary symptoms, fever, soreness of throat and eyes, but these were sometimes most affected, and remained inflamed for a long time. Indeed, so much ophthalmia preceded, accompanied and followed the measles, that they seemed to have tainted the eyes of many persons in a most extraordinary manner. For though the measles were without exception cured, yet the ophthalmia was the most obstinate ever met with by me. Some of the cases were perfectly incurable, the conjunctiva becoming granulated and chronically inflamed. Local and general depletion, astringent lotions of the greatest reputation, citrine ointment, the nitrate of silver, and all other remedies thought appropriate, were tried in vain. Consequently some of these cases

had to be sent on shore before the ship sailed, and others to the United States after she arrived in Brazil. With the exception of these cases, I have very rarely failed in subduing ophthalmia by means of the medicines specified; weak solutions of sup. acet. of lead, the nitrate of silver, and sulph. of zinc, warm bathing, cathartics, antimonials, blue mass in moderate quantities, and by occasionally using leeches and poultices to the eyes, and blisters on the nape of the neck. Setons also were employed in some cases of the worst kind with doubtful efficacy, and bathing with warm water in those of every class, as it was much more soothing than cold. The former lessens action, relaxes the inflamed parts, causes a free secretion from the meibomian glands and eyes, renders them more sensible to the action of cold, or astringent lotions, and thereby indirectly produces a tonic effect. When inflammation ran high in the above and like cases, scarification with a lancet on the inside of the lids was frequently performed. In some instances, however, it seemed to increase rather than diminish irritation, either from the great sensitiveness of the parts, or from an increase of tears having been caused to flow over the incisions.

For the cure of the measles, the remedies most prescribed were cooling drinks, seidlitz powders, and other gentle cathartics. Collyria, alum gargles, and brown mixture were given to the patients whose eyes, throats, or respiratory organs were much affected.

Into two of the ships mentioned another contagious disorder was introduced—the mumps, or technically speaking, cynanche parotidea. The first ship infected was the United States, and it was thought at New York, as she sailed from thence, though the disease appeared on the seventeenth day afterwards, and when she was two-thirds across the Atlantic. The period of incubation, therefore, was nearly three weeks, if not more, unless the disease originated on board, which is improbable. The first case was that of a man who had the usual symptoms and was cured of them, but seized with orchitis twelve days after he was taken under treatment. Another man had mumps in a reverse manner, the right testis having been tumefied and inflamed before he had the parotids sensibly affected, and the jaws made stiff. In a third case, the submaxillary glands were also enlarged, and as much,

if not more so, than the parotids. Altogether, twenty cases happened, and the last one upon the 28th of August, that is sixty-three days after the appearance of the first case. Most of them were of a mild kind, but six were attended with orchitis of one or both testes, and the average cure was effected in seven and a half days. The youngest patient was seventeen years old, and the eldest thirty-eight years. Three more persons were above thirty, and ten were from seventeen to twenty-two years old. In the Savannah only ten persons had the disease; the youngest was a marine drummer of ten years, and the eldest a seaman of twenty-eight. Most of these cases were also of a mild character, and all were undoubtedly owing to contamination at New York, where the ship was when the first took place, though three did so at Boston, and four others after she sailed thence for the Pacific. In each vessel the disease seemed to continue until every person liable to it had been affected, for the last one in the United States was taken sick in the Archipelago, and the last patient in the Savannah when she had been at sea twenty-seven days, and was near Brazil. The average period of cure for the cases in the latter frigate was short of six days, although several of them, from the severity of the cold, were accompanied with tonsillitis.

The ordinary treatment was to give Epsom salts and tartar emetic in combination, to purge well. Sometimes the castor oil was given, or an emetic of ipecac. and tartarized antimony, when the testes were attacked. Afterwards the sick took the spiritus mindereri, or a solution of the last named medicine, rubbed the volatile liniment over the parotids, and wore hot linseed poultices over them. Their diet was low, their drinks cooling when fever ran high. In two cases this happened to such a degree as to demand free venesection, and in those where the parotids and testes were much inflamed leeches were applied. When the testes were attacked, blisters were occasionally substituted for volatile liniment to the parotids, and an evaporating lotion of water, alcohol and sup. acet. of lead were applied to the former instead of poultices. By the use of the above remedies all the cases were cured, but one of those in the United States was under treatment twenty-eight days, from being complicated with catarrh as well as orchitis. In the cases accompanied with tonsillitis,

gargles had to be used, and I also, agreeably to my practice in that disease, lanced the tonsils freely. This very much shortened the treatment, and relieved the patient of pain and difficult deglutition, by disgorging the blood vessels and preventing swelling and suppuration. In fact, freely lancing the tonsils does in a few minutes what may require days or months to accomplish with medicines. It also prevents the part from remaining indurated and swelled after the inflammation has subsided, and saves thereby the necessity of excision. Were this practice generally adopted, in conjunction with appropriate medicines, the above operation would become almost obsolete. Certain it is, that I know of no instance of its having been required after I had treated tonsillitis—and many cases have been seen by me—of persons who had enlarged tonsils, ascribable to the neglect of incisions into them while inflamed. To make them, a lancet firmly fixed between the two sides of the handle was most used, but the blade is apt to turn to the right or left, and is too short to reach the glands unless the fingers holding the instruments are partly thrust with it into the mouth. For these reasons, a small straight scalpel is preferable, and the patient having had the lower jaw and tongue firmly depressed by means of a spoon handle or spatula, without being thrust so far back as to cause gagging, the point of the scalpel should be passed directly through the projecting portions of the glands. By doing this, a copious flow of blood will be obtained without danger of puncturing the external walls of the fauces and cutting the internal carotid arteries in their passage to the base of the cranium. Such an accident could only happen from great carelessness,, awkwardness, or ignorance of the anatomy of the parts, and is not more liable to occur than that of leeches—recommended by some—getting into the stomach or larynx, either before or after application. These reptiles likewise are very disgusting and horrifying to many patients, even when they are externally applied, and few would submit to their being introduced into their throats. This difficulty might be obviated by their being used externally, but they would be less efficient and would have to be applied in larger numbers, and this would be very objectionable where they are scarce and the patients poor, or the leeches very dear, as at Lima, at which city they cost a dollar a piece by the hundred. At sea, too, it is

difficult to keep a supply of them; often they cannot be had for any price, and for these, if for no other reasons, it is preferable to employ incisions. But though these possess such efficacy, they were not relied on alone, were frequently not required, and always assisted by medicines. The gargles mentioned were used, likewise some made of the nitrate of potash dissolved in sweetened water, in the proportion of ʒi. or ʒij. to ℥vij., and others of Cayenne pepper, molasses, and vinegar, and of like proportion. In the majority of cases, however, a gargle of ʒij. of powdered borax, ʒi. of honey and ℥viij. of strong sage t^{e}a was found the most pleasant and useful, and most prescribed. In severe cases antimonials, and other diaphoretics, eathartics, frictions over the throat, and hot pediluvia were used. Hot poultices applied externally to the affected part after friction with volatile liniment and turpentine or some other stimulating one, afforded much relief, and the same benefit may be derived from filling a small bag with wood ashes, wetting them with warm ley, and fastening the bag about the patient's throat while he is reposing. This is a domestic remedy which I have seen used in country practice, but a very good one, from its combined fomenting and stimulating properties, which promote perspiration, and divert irritation from the fauces to the integuments.

Surgical Cases. By George W. Brown, M. D., of Port Carbon, Pa.

(Continued from No. VII)

Case IV. Jonathan D., a stable-man, fifty years of age, five feet ten inches high, pretty well made, but of rather dissolute habits, came into my office November 9th, 1852, with his arm supported in a sling, and desired me to examine his shoulder. I stripped him, and at a single glance, I saw he had a dislocation of the right os humeri into the axilla. The shoulder was flattened, the acromion process of the scapula very prominent with a depression immediately under it, the arm was immoveably fixed, and the head of the bone could be felt in the axilla.

The history he gave of his case was that two weeks previous he went to Pottsville for a load of feed, and he drank rather freely, and when he came home he opened one of his bags, and

took hold of the mouth with his right hand, and placed it upon his right shoulder, and in attempting to walk a plank from his waggon to the stable with his load, he was precipitated to the ground a distance of three feet, and as he fell he felt something give way in his shoulder, and when he arose he suffered severe pain in the part, and found the arm immoveably fixed. He immediately called in a neighboring physician, who came, and made extension for some time, and finally told him it was reduced. He placed a pad in the axilla, put the arm in a sling, and then forced the elbow as close to the side as he could with a bandage placed around the arm and body, and left. He called the next day, and as he was suffering acute pain he insisted the bone was not in its place, but the Doctor gave him a liniment to rub his shoulder, assuring him that it was reduced; and thus things stood when he came to me, the pain never ceasing in his shoulder for one moment. I placed him in a chair and applied a proper apparatus, and after torturing my patient for some time, and breaking the belts attached to it, I removed it, and placed him upon his back upon a buffalo robe upon the floor, and setting down beside him I placed a ball of wick yarn in his axilla, and drew my boot and placed my heel upon it, and seizing his wrist with both my hands at the same time directing an assistant to seize me by the shoulders from behind, and another to seize him in the same way, and so on till I had the force of four men, when at a given signal we all made gradual but continued extension for about three minutes, when the bone slipped into its place with an audible snap, and immediately the patient was relieved, and the free motions of the arm were restored. The arm and hand were very much swollen, and he complained of great numbness of the entire limb, with the total loss of the power to contract his fingers, but this I attributed to the pressure of the pad in the axilla upon the vessels and nerves of the arm; but after having applied such remedies as reduced the swelling, I discovered a dislocation of two of the bones of the carpus, but the inflammation and consequent adhesions were such as to forbid any attempt at reduction (if indeed that is possible under any circumstances,) and to destroy almost entirely the use of the hand. He has at this date very free use of the arm, but very little of the hand.

Case V. I was called to see Thomas D., a miner, 30 years of

age, about five feet ten inches high, and very large and muscular, at 8 o'clock, P. M., Sept. 21, 1852. On examination I found a dislocation of the femur directly backwards upon the dorsum ilii. He was suffering a good deal of pain, and upon comparing the two bones of the thigh, the dislocated one was from two to three inches shorter than the other, and immoveably fixed. The history he gave of his case was, that as he was coming out of the mines he stopped to talk to some one, and while doing so he leaned his back against one of the gangway timbers, and placed his left foot upon the bumper of an empty car that was standing on the track, and while in that position a loaded car came down the track and struck the car upon which he had his foot, and carried it forward with such force as to flex his leg suddenly upon his thigh, and thereby strike his knee, and his back being firmly fixed against the gangway timber offered so much resistance that the head of the femur was carried directly backward into the position in which I found it. I secured a staple into the surface upon one side of the house, and into the door casing upon the other, each being about three feet from the floor. I then placed a bed upon the floor and placed the patient upon the sound side upon it, and applied the compound pulleys in the usual way, and kept up extension and counter extension for nearly an hour with two men at the pulleys, when the patient positively refused to let me go on with my efforts, unless I put him under the influence of chloroform. But having very lately read of a number of cases terminating fatally from the use of chloroform in the hands of those who were in the habit of useing it constantly, I thought it best to have a consultation before proceeding further. I therefore gave the patient an anodyne, and directed him not to be moved, and adjourned the case until nine o'clock the next day.

At the time appointed, Dr. Carpenter met me in consultation, and I applied the pulley in the usual way, except that I applied the extending band to the ankle, instead of applying it immediately above the knee, as is usual, in consequence of the excessive developement of the muscles of the thigh, which made the link so tapering near the knee as to render it impossible to keep the extending band in position, while applying the necessary force. I now set the patient up in bed, with all the apparatus

properly applied, and tied up his arm and made a very large orifice, and let the blood flow till he was on the point of fainting; when I immediately arrested the flow of blood, and commenced administering the ether (thinking that less dangerous than chloroform) and as soon he was completely under its influence, we placed him in position and commenced gradual extension, but before we had made it sufficiently long, the staples gave way and we were obliged to desist. We now laid the patient down and sent for a carpenter, and had the staples so secured as to prevent their giving way, at the same time raising the one attached to counter extending band to almost five and a half feet from the floor, so as to make it bear in such a way, as to assist in lifting the head of the bone from its malposition. We again placed him completely under the influence of the ether, and put four men to the pulleys, and two to the transverse band, when I took charge of the lifting band, and Dr. Carpenter the leg. After applying our force very gradually and keeping up extension for about five minutes, the head of the bone slipped into its place, with a very loud snap, and in letting him down the motions of the limb were restored, and it corresponded in every respect with its fellow. I placed him in bed and applied a bandage, so as to confine the injured limb to the sound one, and in a few minutes (the effects of the ether having passed away,) the patient expressed his gratitude for relief, in the warmest terms. I gave him a liniment to be applied to his hip, and directed him to be kept quiet in bed for a few days. At the end of ten days he was walking about with a stick entirely restored except a feeling of weakness in the vicinity of the joint.

Case 6.—I was called to a neighbouring beer house, in a great hurry, Nov. 23, 1852, to see Thomas C., a boatman 25 years of age, stout, thick set and very muscular, whom I found very much intoxicated, and two or three of his comrades holding him to restrain him from injuring himself; and others around him. He had a silk handkerchief bound tightly around his right arm, and he was covered with blood, as was the floor, ceiling, and sides of the room, and indeed everything in it. The history of his case was, that some fifteen or twenty minutes previous, in attempting to strike one of his companions, he drove his arm through a pane of glass in the window, dividing the muscles of the forearm down

to the bone, about the junction of the lower with the middle third; at the same time dividing the radial artery. He drew his arm back and drove it down a second time upon the sharp pieces still hold in the sash, when a small pointed piece penetrated the fore-arm about one inch above the first wound, and divided the radial artery a second time. The blood was still flowing from under the handkerchief, which had been bound around the arm by the by-standers. I immediately placed the thumb of an assistant upon the brachial artery, directing him to hold it firmly till I returned, when I came home and procured my horse shoe tourniquet, and applied it over the artery, and had him removed to his own house. By the time he was taken home and placed in bed, he was so overcome with the loss of blood and the effects of the liquors that he offered no resistance whatever, but was as passive as a child. I placed him upon his back in bed, near the edge, and drew his arm out over the side, and had it held firmly by an assistant. I now made an incision obliquely over the course of the artery, about one inch above the upper wound; but in consequence of the tissues being bathed in blood, I found it very difficult to apply the ligature, but I finally succeeded; but as the flow of blood still continued, I was obliged to apply a ligature to the lower end, which I did in the large wound, without much trouble, and then brought the wounds intact by several stitches of the interrupted suture and adhesive straps. I also applied a bandage pretty tightly, commencing at the ends of the fingers, and as I passed up with the bandage I applied a compress over the wounds. I ordered perfect quiet, and cold water dressings as soon as re-action came on.

November 26th, 9 o'clock, A. M.—Patient rested pretty well till near morning, when he became restless and uneasy. He is now very restless and feverish, with a good deal of pain in his head and arm, pulse 112, tongue white, dry, and very thirsty. To have calomel ʒss., to be divided into three equal parts, one to be taken every two hours, and to be followed by senna and salts, in divided doses till it operates freely. 10 o'clock, P. M. The medicine has operated very freely, less pain in the head and arm, less thirst, but very nervous and restless. To have one fourth of a grain of the sulph. of morphia every hour until he rests well, and to have cold lemonade for a drink.

November 27th, 9 o'clock, A. M.—Patient passed a very good night. Better in every respect. Continue treatment. My patient from this time on continued to improve, the ligatures coming away on the tenth day, and by the end of the third week he had entirely recovered. He now experiences no inconvenience in using his arm whatever.

Case 7.—I was called to see Mary S——, aged seven years, a child with light hair, blue eyes, a very fair skin, and altogether of a very delicate make. At the time I was called she was laboring under a very high fever, face flushed, with a purple spot on each cheek, rapid breathing, short dry cough, pulse 120, tongue covered with a white fur, and very thirsty, skin hot and dry, and severe pain in the left breast.

Physical Symptoms.—Complete hepatisation of the left lung, as shown by a dull sound over the entire lung, and the absence of the healthy respiratory murmur, and the existence of tubal respiration. Decubitus always upon the left side. I bled her freely till near syncope, and gave her an antimonial emetic, to be followed by calomel in five grain doses every four hours, with mucilaginous lemonade for drink, and flying sinapisms to the chest and back.

November 24th.—Patient somewhat relieved, pulse still 120, but less corded, cough still dry, pain less acute, but still severe, skin still dry and husky, and the tongue covered with a yellowish fur, particularly near the root, and the physical signs much the same as yesterday. Blood drawn yesterday cupped and buffy, clot very firm. Emetic operated very freely, and caused her to throw up large quantities of tough white mucus, but no blood. The calomel has operated very freely upon the bowels. Continued calomel and antimony in small doses every ten hours. Flying sinapisms to the chest and back, and cold lemonade with gum acacia for drink.

November 25.—Patient is still very much the same, but more feeble in consequence of the bowels being very loose. Discontinue calomel and antimony, and to have iodide of potassium, three grains every four hours, with tinct. opii and camph. in the syr. sarsaparilla compound. A liniment of equal parts of the ol. terebin., acid acetic, and ol. olivæ, to be rubbed to the chest, and

to be covered with carded cotton constantly. Dov. pulv. with the hyd. c. cretâ at bed time. Continue cold mucilaginous drinks.

November 26th.—Patient considerably improved, but the mother complains that she cannot give the medicine, as she is very obstinate, and spits it out as fast as it is administered. The same kind of treatment was ordered to be continued, but very little could be done, as she would not take the medicines, and the parents would not force her, as they had made up their minds that she was going to die, although I had assured them if they could get her to take her medicines I thought she would recover, and thus things continued up to the 6th of January, 1853; some days taking one dose of her medicine, some two, and some none; some days being a little better, and on others a great deal worse. I had not seen her since the 21st of December, as I had discontinued my visits in consequence of their not compelling her to take the medicines. I now found her laboring under all the symptoms of abscess of the lung. Pulse 130, small and weak, cheeks flushed, skin bathed with perspiration, particularly when she sleeps, bowels very loose, tongue clean, shining, and very red, and on examining the chest I found the dulness much the same as at last report, but in the intercostal spaces between the sixth and seventh, and seventh and eighth ribs, immediately below the axilla, I found a very considerable bulging, and I thought I could detect fluctuation. I ordered a warm poultice to be kept constantly to the side, and a continuance of the iodide of potassium and syr. sarsaparilla, with the hydr. c. cretâ at bed time. To have a good diet of animal broths, with a little wine or porter three times a day.

January 10th.—The enlargement in the intercostal spaces becoming more prominent. Patient in much the same condition as at last report, except that the appetite has improved some, but her breath is very offensive, and a few evenings since, in an effort at vomiting, she threw up a small quantity of very offensive pus. I now prepared to operate upon the child, and draw off the matter with a trocar, but this the parents resisted, and would not hear of such a thing. Continue treatment as before.

January 14th.—Patient still much the same as at last report, except that she is becoming exhausted more rapidly. Friends

still resist an operation. Continue treatment as before, except that she is to have the ol. jecor. aselli, in teaspoonful doses every four hours, in porter, and the hyd. c. cretâ every four or six hours, as may be necessary to restrain the bowels.

January 20th. The disease has progressed much more rapidly towards a fatal termination since last report. Her breath has become so very offensive, that the family can scarce remain in the room with the door closed. Parents have now consented to an operation, they being satisfied that she must die in a very short time without an operation, and that she can but die with it. Continue the treatment, with the addition of the elixir of vitriol in ten drop doses, three times daily.

January 21st. In the presence of and with the assistance of Dr. J. Carpenter, after drawing the skin directly upwards and making it tense, I made a slight incision immediately over the upper edge of the 8th rib, and then passed the trocar and canula into the chest, and drew off about ten ounces of extremely offensive pus of a greenish color. The air passed in and out of the canula as she inspired and expired. Blood flowed freely from the wound after removing the canula, but ceased upon closing it. After closing the wound with adhesive straps, we applied a compress over it, and bandaged the entire chest from below upwards. She bore the operation very well, and seemed much relieved after it. Continue treatment.

January 26th. Diarrhœa nearly ceased, coughs but very little, breath much less offensive, appetite becoming very good, and she has become very fond of the oil. From this time forward, my patient progressed favorably till March, when the abscess partially filled again; but an opening formed with one of the bronchial tubes, and after a fit of coughing, she was seized with vomiting, and threw up near half a pint of the same kind of greenish pus as before, with perfect relief to all of her symptoms. Some time in April, the same thing took place, but to a much less extent. I examined her *lung* in July, when I found healthy respiration in all parts of the lung except that part occupied by the abscess, which is dull and the side contracted. I have seen her frequently in the last few days, and she appears to be perfectly restored so far as her delicate constitution will permit.

BIBLIOGRAPHICAL NOTICES.

General Board of Health. Second Report on Quarantine. Yellow Fever. With appendices, presented in both Houses of Parliament, by command of her Majesty. London, 1852. 8vo. pp. 414.

This is the second of a series of reports, of great practical value in a sanitary and commercial point of view; the first of which appeared in 1849, addressed to Parliament, on Quarantine and Cholera. We are advised that the third Report will contain the decisions of the International Sanitary Conference which has just terminated its labors at Paris.

The names of Edwin Chadwick, Esq., and Dr. J. Southwood Smith, appended to these reports, two of the committee of investigation, appointed by the Board of Health, are a sufficient guarantee of the manner in which the commission has been executed; while the subjects discussed particularly in this second report, now before us, are of a character that will secure for it a careful reading, wherever it can be had.

Indeed it is a source of regret, that this deeply interesting document had not been issued in a form that would insure for it a more general circulation, especially in those countries where Yellow Fever prevails endemically.

This second report presents to the reader several points of absorbing interest. While it purports to be an investigation into the necessity or otherwise of Quarantine laws, it takes hold of and discusses in a masterly manner the subject of Yellow Fever, contributing much towards the solution of several questions, hitherto involved in doubt and obscurity.

The inquiry professes to settle the leading points at issue, viz., the non-contagiousness of Yellow Fever, its domestic origin, and its similarity in type to miasmatic fevers.

The conclusions to which the General Board of Health have arrived, as set forth in this report, after a close and scientific investigation of a large amount of evidence, are presented under fifteen distinct heads, which may be summed up as follows:

That Yellow Fever epidemics may appear in different towns and remote parts of the same town, under circumstances in which communication with infected persons is impossible; that they are usually preceded by sporadic cases, which cases are common when no epidemic prevails; that they do not spread by any rule of gradual progression; that, when the fever is prevalent in a locality, rigid seclusion affords no security; that the entire removal from an infected district, often arrests the progress of the epidemic; that, the disease cannot be transmitted from one person to another in a hospital; that it is local or endemic in its origin, and those causes which influence its location are removeable, and in proportion as they are removed so will the fever subside, or appear in a milder form; that non-acclimatization is a predisposing cause for the disease; that there is no evidence to prove that Yellow Fever has ever been imported; and lastly, that "the means of protection from Yellow fever are not quarantine restrictions and sanitary cordons, but sanitary works and operations, having for their object the removal and prevention of the several localizing conditions, and when such permanent works are impracticable, the temporary removal, as far as may be possible, of the population from the infected localities."

The question, as to the necessity of the present rigid system of quarantine, as a preventive for the introduction of disease from abroad, is taken up and thoroughly investigated. The result of this inquiry is, that they cannot afford any real protection, and "that the substitution of Sanitary and Hygiene measures, for quarantine isolation and restriction, would afford more certain and effectual protection."

While we agree in most particulars with the opinions advanced by the General Board of Health on this subject, and entertain the most reliable confidence in the adoption of a rigid police system, for the prevention and spread of disease, and while we are decidedly in favor of such an entire modification of our quarantine laws, as will forever remove those arbitrary and oppressive features, which, in this enlightened age, ought to be looked upon by our law makers as alike cruel, unjust and injurious to commerce, inflicting unnecessary inconvenience on passengers and seamen, "while they maintain a false security in relation to the means of preventing disease"; we are not altogether

prepared to sanction the propriety of admitting vessels into port that have come from unhealthy places, or that have had infectious disease on board during the voyage, until they have undergone the process of ventilation and purification beyond the limits of the Port.

In regard to the introduction of small pox, however, which forms an exception to the system proposed in this report, we should deem it advisable not only to detain the vessel for purification, but also the crew and passengers, or such of them as are laboring under the disease, until they have recovered.

In the form of an appendix there is an interesting report on Yellow Fever; by J. Gillkrest, M. D., Inspector General of Army Hospitals. The reply of Judge Howell to Sir George Murray, giving the reasons for his opinion (as one of the members of the Board of Inquiry into the origin of the Yellow Fever epidemic of 1828 in that Garrison,) that said epidemic had its origin in Gibralter. Remarks on the Yellow Fever of the West Indies and coast of Africa, by Dr. A. Browne, founded on statistical reports of the army and navy, &c., and a notice of the proceedings of a board of Inquiry held at the office of the army medical department 1849-50, on the nature of Yellow Fever. All of which are interesting and replete with valuable statistical and historical information on the subject of Yellow Fever.

Two beautiful engravings of Gibraltar accompany the book, as well as the Abstract of a Report, by James Wynne, M. D., on Epidemic Cholera as it prevailed in the United States in 1849 and '50—an American work of much merit on the etiology of that fatal scourge to the world.

W. J.

A Practical Treatise on the Diseases of Children. By D. Francis Condie, M. D., Secretary of the College of Physicians, etc., etc. Fourth Edition, revised and augmented. Philadelphia, Blanchard and Lea, 1853. pp. 732.

Dr. Condie's excellent treatise on the Diseases of Children is so familiar to the American profession as a standard work, and it has on previous occasions been so fully noticed in our columns, that we need only now announce the recent appearance of a *fourth* edition. The author's great experience, extensive reading, and familiarity with foreign languages, peculiarly fit him for the execution of such a work; and its value is abundantly proved by the numerous editions which it has reached in a very short period. It is characterized by great clearness and lucidity of style and arrangement, sound pathological views, and precise and plain therapeutical directions. The author claims "to present only those remedies and plan of treatment which he has found from actual observation, made at the bedside of the patient, to be best adapted to relieve or remove the several forms of disease of which he treats. * * * He has not failed, however, o notice every remedy and plan of treatment which comes to us with the recommendation of practitioners of unquestionable authority, even although he may not have had an opportunity of testing its efficacy."

Dr. Condie's remarks on re-vaccination appear to us to present very sound views on this subject. He believes that the system, once fully infected with the vaccine disease, enjoys a "protection against the occurrence of small pox, which is unimpaired with the lapse of time." But he admits and advocates the necessity of re-vaccination, "as a test whether the susceptibility of the individuals to the variolous disease has been fully extinguished." Whatever theoretical view may be adopted on this subject, whether with Dr. Condie, we assume that in a certain number of persons there exists "a greater or less degree of susceptibility to variolous infection, [which is] left unextinguished, and which susceptibility augments in time," or whether we adopt the opinion, "that the protective powers of the vaccine infection become gradually impaired, as the individuals who have been subjected

to its influence advance in age," we think the question of the practical value of re-vaccination is abundantly settled. Our own experience in re-vaccinations, in a large Institution of children, has resulted in about 11 per cent. of cases, in which the genuine vesicle was reproduced in individuals who were supposed to have been vaccinated, and had good scars. And our first experiments with re-vaccination in this Institution, led we think, to very striking evidence of its prophylactic virtues. Two cases of modified small pox occurred in the Institution, during the epidemic which prevailed in this city in 1851. Immediately on the appearance of the eruption, we re-vaccinated all the inmates (over a hundred and thirty.) In twelve, the re-vaccination was successful, a large number had sore arms, with more or less approximation to the genuine vesicle; but no other cases of varioloid or small pox occurred in the Institution.

A Treatise on Diseases of the Heart. By O'B. BELLINGHAM, M. D. F. R. C. S. Member of the Court of Examiners of the Royal College of Surgeons in Ireland, etc., etc. Part 1. Dublin: Fannin and Co. pp. 252.

This work is a republication, with revisions and additions, of Clinical Lectures delivered by the author at St. Vincent's Hospital, Dublin. They appeared originally in the Dublin Medical Press, and London Medical Gazette; and, having attracted considerable attention, have been appropriately re-issued in a distinct form.

"The work consists of two Parts: the first contains a description of the healthy heart, its size, weight, and the measurement of its chambers and orifices; followed by sufficiently full details respecting its motions and sounds. The examination of the heart in disease is then entered upon, commencing with the physical signs; the general signs, and the secondary or remote symptoms of cardiac disease are described in succession. The second part is devoted to the individual diseases of the heart, which are arranged according as their seat is the investing membrane, the lining membrane, or the muscular tissue of the heart, followed by a description of the functional or inorganic affections of the heart."—*Preface, p.* 8.

Part second only has been issued. It will be found to present a clear, concise, and accurate account of the heart, with original and novel views of its motions and sounds in health and disease.

The author rejects both valvular action and muscular contraction as influencing the normal sounds of the heart, and accounts for both the first and second sound as the result of friction between the blood and the parietes of the orifices of the heart. We extract his explanation of the sounds at length.

"*First sound.*—The first sound of the heart we know is synchronous with the ventricular systole : in this act, the blood, compressed by the contraction of the powerful muscular walls of the ventricles, is propelled with considerable force into the aorta and pulmonary artery, the sigmoid and semilunar valves of which are suddenly elevated. In the rapid passage of the blood from a wider to a narrower area, there must be considerable friction between this fluid and the parietes of the arterial orifices ; quite sufficient, in my mind, to produce the prolonged first sound of the heart. This sound necessarily has a distinct character from the second sound of the heart, because the resistance to be overcome is so much greater, and the passage of the blood through these orifices is more gradual ; it is likewise more prolonged, because sound must be developed during the entire period that the blood is passing from the ventricles into the large arteries : and the slower the action of the heart, the more prolonged will this sound be.

Second sound.—The second sound of the heart we know is synchronous with the ventricular diastole : during this act the muscular fibres of the ventricles are relaxed, the cavity of the ventricles enlarges, and the walls of the ventricles re-expand ; the curtains of the auriculo-ventricular valves open, and there is a sudden influx of blood from the auricles through the auriculo-ventricular orifices. It is scarcely necessary to say, that it is not the contraction of the auricles which propels the blood into the ventricles at this period of the heart's action ; nor is the dilatation of the cavities of the ventricles the result of the entrance of the blood from the auricles, as some have supposed. It is not, either, necessary for the production of this sound that the diastole of the ventricles should be an active process like the systole ; the ventricles being hollow muscles, the state of relaxation of their muscular fibres is a state of dilatation of their cavities : hence a vacuum would be created in them if the auricles were not at this period full of blood ready to supply them, but, as the latter had been filling during the whole period of the ventricular systole, this cannot happen, and the blood passes through the auriculo-ventricular orifices in a full and rapid stream, and with sufficient force to generate sound.

That the blood enters the ventricles with considerable force, would appear from what has been observed in experiments upon animals, as well as in the human subject. Cruveilhier says that, in a case of ectopia of the heart in an infant, when the organ was grasped with the hand during the ventricular diastole, it was violently and forcibly opened,—so much so, that he was at first under the impression that the diastole was the active state of the ventricles.

The second sound of the heart is much shorter than the first sound

because the relaxation of the muscular fibres of the ventricles in the diastole is rapid, and the motion is sudden and instantaneous. It has a different character from the first sound, because the blood has no impediment to overcome in entering the ventricles from the auricles."

That friction between the blood and parietes of the orifices of the heart must be an important element in producing the first sound of the heart, we have long believed, and, with the author, we have regarded it as an inconsistency "to reject this element as incapable of producing the normal sounds, while it is set down as the one which almost exclusively gives rise to the abnormal sounds of the heart. We cannot, however, subscribe to the opinion, that friction is the only element in causing the first sound of the heart, for we believe it to be produced by several elements. And we cannot at all understand, how the short, sharp second sound is to be referred to the same cause as the first. Dr. Bellingham dwells pointedly upon its "different character from the first sound," which he attempts to explain by the fact "that the blood has no impediment to overcome in entering the ventricles from the auricles."

We have been for some time disposed to lean to the opinion, that both the sounds and impulse of the heart are best explained by adopting the account of its actions which has been deduced from the observations of Dr. Robinson, of Virginia, and Mr. Beau, of France. According to the cases of these observers (new born infants in whom the breast-bone was wanting) the action of the heart begins with an *active* diastole or dilatation of the organ in all directions, during which its apex is projected upward and forward, and the *impulse* is produced. This active diastole is followed, without observable interval, by the contraction or systole. And the first sound is probably the result, 1, of the friction between the blood and the auriculo-ventricular orifices during the active diastole; 2, of the subsequent closure of the mitral and tricuspid valves; and 3, of the friction between the blood and the orifices of the aorta and pulmonary artery, during the systole; while, 4, the impulse, and also 5, the muscular contraction in the systole may contribute to this sound. The second sound, according to this view, is produced by the closure of the semilunar and sigmoid valves, after the systole.

These opinions have been urged with much ability by Dr. A. Stillé, in a work on General Pathology, and are now adopted by

Prof. Wood in his lectures at the University of Pennsylvania. They are certainly plausible; and, although they require the confirmation of further observations, before they can be positively admitted, they appear to us to offer the best explanation of all the phenomena of the heart's action that has been presented.

Dr. Bellingham's chapters on the Examination of the Heart in Disease, and on the Signs of Cardiac Disease, present a faithful and graphic picture of what is known on these subjects, and on many points his views are striking and original. We shall look with anxiety for the speedy appearance of Part Second.

Proceedings of the American Pharmaceutical Association, at the Annual Meeting held in Boston, August, 1853. pp. 48.

We have read these proceedings with much interest, and we feel confident that the action of this Association is destined to accomplish great good. It has taken the highest ground on the subject of quack medicines, as will be seen both from the resolutions adopted, and negatived.

Those adopted were—

"Resolved,—That the American Pharmaceutical Association believe that the use and sale of secret or quack medicines is wrong in principle, and is in practice attended with injurious effects to both the profession and the public at large, and believe it to be the duty of every conscientious druggist to discourage their use.

"Resolved,—That this Association earnestly recommend to our pharmaceutical brethren to discourage by every honorable means the use of these nostrums; to refrain from recommending them to their customers; not to use any means of bringing them into public notice; not to manufacture or to have manufactured any medicine the composition of which is not made public; and to use every opportunity of exposing the evils attending their use, and the false means which are employed to induce their consumption."

The resolution lost carries a no less pregnant negative.

"The following resolution, [embodying an opinion of the Committee on the Inspection of Drugs,] was offered, and after much discussion decided negatively:

"Resolved, That we believe the Drug Law was never designed to exclude foreign secret or quack medicines through the Custom House, nor do we believe this justifiable however *desirable*."

THE MEDICAL EXAMINER.

PHILADELPHIA, NOVEMBER, 1853.

YELLOW FEVER IN PHILADELPHIA.

It is with much pleasure that we announce to our readers that the Yellow or Malignant fever has entirely disappeared from our city; no new cases having occurred since the 7th of October. Nor is it with less satisfaction that we communicate the fact, that at no period of the year has our city enjoyed a greater degree of health than at the present time.

The whole number of cases of Malignant fever that have occurred since the 19th of July, as far as we have been able to collect them, have been one hundred and seventy. These embrace all reported to the Board of Health, together with a few others, that did not come under their notice. They include every variety of the disease, or those recognized in the nomenclature, as Yellow, Malignant, Malignant Bilious, Pernicious, Malignant Remittent, and Typhus Icterodes fevers.

One hundred and forty-seven of these cases may be distinctly traced to the immediate vicinity of the infected district, making South Street wharf the centre. Of the remainder it is uncertain where the fever was contracted.

The ratio of mortality has been very small, compared to the whole population of that section of the city where the disease prevailed; but, when calculated by the number of persons attacked, it has been proportionably large.

Out of 170 cases there were 128 deaths, equal to 75 per cent. or one death in every 1.42 hundreths.

This fatality, must be ascribed to the virulence of the atmospherical poison, and the character and habits of many of those who were exposed to its morbific influence. It must not, however, be entirely overlooked, that there have been other cases of fever in the infected locality, assuming a less malignant form, which being readily cured, were not considered by their medical attendants as suitable cases to report to the Board of Health. Had all such been included in the above estimate, they would have increased the number while they would have materially diminished the ratio of mortality, and at the same time have placed the success of the treatment, in a much more favorable aspect.

The locality of the fever has been very much circumscribed, its ravages having been confined to narrow limits. Union street on the north, Second street on the west, Queen street on the south, and the Delaware river on the east, may be set down as its boundaries, although we have the record of a few isolated cases, originating beyond these limits, between which and the infected locality, we could not trace any connexion.

During the interval between the date of the first case of Malignant Fever, July 19th, and the last, October 7th, including a period of eighty days, it is doubtful, when we compare the quarterly statistics of mortality, published in this number, with those of similar periods in preceding years, whether the health of the city in general has suffered any material deterioration. For instance, in 1852 the deaths for the quarter ending October 2nd, class Zymotic or Epidemic, were 980, among which fevers are included. This year they were 999, being an increase of only nineteen over those of the former, although malignant fever prevailed.

Notwithstanding, therefore, all the hue and cry among alarmists at home, and those envious of our reputation for health abroad, about the extent of the disease and its fearful ravages, we may safely assert, that the general health of Philadelphia as well as its increasing commercial interests, have not experienced any interruption.

Among all the cases of Malignant fever that have happened this season in our city, of which we have any record, there is not a single instance of its occurrence among the colored population. This fact is in accordance with a generally received observation, that the African race is much less susceptible to malarious influences than others.

Another circumstance worthy of record is, its non-contagiousness. This must be the uniform evidence of all who have had anything to do with the disease. Not an instance can be cited of its having reproduced itself. Many of the cases where the fever was contracted by a visit or a residence within the infected locality, were treated far beyond the limits, and in different parts of the city, without communicating the disease to others.

In the Pennsylvania Hospital 24 cases were treated, and in wards surrounded by those who were sick and convalescing from other diseases, and where there was continual intercourse with the patients, and not an individual in the house was attacked with the fever. The like immunity was observed at the Blockley hospital, where, had the disease possessed contagious qualities, it would have been very likely to have spread among the inmates.

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In conclusion we would add, that we are more than ever convinced of the importance of sanitary measures in a large city. Our experience during the past few months has demonstrated their power and value. We are confident that judiciously administered sanitary operations are all that are required to avert the malignancy and fatality of epidemics. Cleanliness, pure air, and health go hand in hand. While filth, an impure atmosphere, and disease, are universally concomitants, one never being found without the other.

In a salubrious climate like that of Philadelphia, we should have no excuse for the spread of an epidemic. There do exist, it is true, as in all cities, where the laws of Hygiene have not been studied in the laying out of streets and in the erection of dwellings, numerous localizing causes, favorable to the outbreak and spread of epidemics, but by enforcing an early and energetic system of sanitary appliances, much may be done by the custodians of the health of the city, towards mitigating and arresting the spread of disease. W. J.

MEDICAL NEWS.

Hospital Appointments.—Dr. Willard Parker has resigned the situation of Visiting Surgeon to the Bellevue Hospital, N. Y., and Dr. Lewis A. Sayre has been appointed to fill the vacancy.

Dr. William Hunt has been appointed one of the Surgeons to the Hospital of the Protestant Episcopal Church of this city, to succeed Dr. W. B. Page, resigned; and Dr. Deacon has been appointed one of the Physicians to this Institution, to succeed Dr. F. G. Smith, resigned.

Surgeon William Wheeler, U. S. N., has been appointed Chief of the Bureau of Medicine and Surgery, vice Surgeon Thomas Harris.

Savannah Medical College.—This Institution will go into operation on the first Monday in November. The course of lectures will be delivered by R. D. Arnold, on the Theory and Practice of Medicine; Dr. G. M. Kollock, on Obstetrics and the Diseases of Women and Children; Dr. W. G. Bulloch, on the Principles and Practice of Surgery; Dr. C. W. West, on Medical Chemistry; Dr. H. L. Byrd, on Materia Medica and Therapeutics; Dr. E. H. Martin, on Physiology; Dr. J. G. Howard, on Anatomy; Dr. J. B. Read, Demonstator of Anatomy, on Pathological Anatomy.

Dr. TINSLEY, of Cuba, claims to have discovered, that "vaccine virus, after passing through a negro's system, is valueless for the white race."

COMPULSORY VACCINATION IN GREAT BRITAIN.—The new Act to extend and make compulsory the practice of vaccination, provides that parishes or unions, if need be, are, within six weeks of the passing of this Act, to be divided into districts, for the purpose of vaccination, and places are to be appointed for performance of the operation. The parents and guardians of children born after the 1st of August, 1853, are to have such children vaccinated within three or four months after birth, and the children are to be taken for the inspection of the medical officer on the eighth day after the operation, to ascertain the result of the same. Should the parents neglect to have the child vaccinated, they are liable to a penalty not exceeding twenty shillings.

OBITUARY.—Dr. W. COCHRAN, one of the oldest and most respected physicians of Louisville, Ky., died at Biloxi, Miss., on the 20th of August last.

DEATH OF Mr. BRANSBY B. COOPER.—Bransby Blake Cooper, Esq., F. R. S., Senior Surgeon to Guy's Hospital, and nephew to the late Sir Astley Cooper, died in London, on the 11th of August. Mr. Cooper was born September 2, 1792; he first served as assistant surgeon in the artillery, studied for some time at Edinburgh, and was eventually apprenticed to Sir Astley Cooper, his uncle, under whose fostering care, and by his own exertions and abilities, he gained the position of senior surgeon to one of the first institutions of the metropolis.

Mr. Cooper was the author of Lectures on Surgery, and was distinguished as a good writer and lecturer, a skilful surgeon and operator, and a laborious practitioner, until recently his exertions were necessarily relaxed by the onset and continuance of disease. When he first experienced the sensation of ulceration at the pharynx, he believed that he had swallowed some small bone, which had lacerated the parts, or was adhering to the tongue or pharynx. Several of Mr. Cooper's friends and colleagues were requested to inspect the throat, with a view to the discovery of the foreign body; but, as may be readily imagined, no extraneous substance was found, and the ulceration continued to make progress; the patient becoming at the same time emaciated, and considerably debilitated. As we stated above, Mr. Cooper continued, in spite of his sufferings, to pay occasional visits to Guy's where he was an object of great sympathy to his colleagues and the pupils, who had always

been treated by him in so kind and friendly a manner that they could not but feel much attachment for their respected friend and teacher. A small vessel (as proved by the autopsy) gave way in the posterior lingual region whilst Mr. Cooper was at the Athenæum Club, and he was almost instantly suffocated.

This eminent surgeon and amiable man was buried on the 25th Aug. when his remains were accompanied to the family vault, in St. Martin's Church, by a few relations, his colleagues at Guy's, and a limited number of students. All seemed to be impressed with great sympathy for the departed in paying this tribute of respect to the kind man, the valued teacher, and accomplished surgeon.

CIRCULAR OF INSTRUCTIONS TO SPECIAL EXAMINERS OF DRUGS.

To prevent the Importation of Adulterated Drugs and Medicines.

To Collectors and other Officers of the Customs, under the Act of 26th June, 1848.

TREASURY DEPARTMENT, June 4, 1853.

"It being represented to this Department that much embarrassment has been experienced by officers of the customs, at some of the ports of the United States, in reference to the provisions of the act of 26th June, 1848, 'to prevent the importation of adulterated and spurious drugs and medicines,' it is deemed expedient, with a view to avoid future difficulties arising from misconstruction of the law, and to secure uniformity of practice at the several ports in carrying out its provisions with precision and efficiency, to furnish you with the additional instructions which follow, explanatory and in modification of the circular instructions addressed to you by the department on the 7th July, 1848.

"To avoid the recurrence of a difference of opinion between the officers of the customs as to what particular articles of commerce should be considered drugs and medicines, and as such, be subject to special examination by the special examiner of drugs and medicines, it is thought proper to state that, in conformity with the evident spirit and intent of the law, it is required that all articles of merchandize used wholly or in part as medicines, and found described as such in the standard works specially referred to in the act, must be considered drugs and medicines, and that all invoices, therefore, of such articles, in whole or in part, must be submitted to the special examination of the special examiner of drugs and medicines, before they can be permitted to pass the custom house.

"In the examination on entry of any medicinal preparation, the said special examiner is to unite with the appraiser.

"With a view to afford a reliable guide to the examiner of drugs and medicines, as well as to the analytical chemist, on appeal, in ascertaining the admissibility of such articles under the provision of the law founded on their purity and strength, the following list is given of some of the principal articles, with the result of special tests agreeing with the standard referred to in the law, all of which articles are to be entitled to entry when ascertained by analysis to be composed as noted, viz:

"Aloes, when affording 80 per cent. of pure aloetic extractive.

"Assafœtida, when affording 50 per cent. of its peculiar bitter resin, and 3 per cent. of volatile oil.

"Cinchona Bark, when affording one per cent. of pure quinine, whether called Peruvian, Calisaya, Arica, Carthagena, Maracaibo, Santa Martha, Bogota, or under whatever name, or from whatever place; or

"Cinchona Bark, when affording 2 per cent. of the several alkaloids combined, as quinine, cinchonine, quinidine, aricine, &c., the bark of such strength being admissible as safe and proper for medicine and useful for chemical and manufacturing purposes.

Benzoin,	when affording	80	per cent.	of resin, or
"	"	12	"	of benzoic acid.
Colocynth,	"	12	"	of colocynthin.
Elaterium,	"	30	"	of elaterin.
Galbanum,	when affording	60	"	of resin.
"	"	10	"	of gum and
"	"	6	"	of volatile oil.
Gamboge,	"	70	"	of pure gamboge resin, and
"	"	20	"	of gum,
Guaiacum,	"	80	"	of pure guaiac resin,
Gum ammoniac	"	70	"	of resin and
"	"	18	"	of gum.

Jalap, when affording 11 per cent. of pure jalap resin, whether in root or powder.

Manna,	when affording	37	per cent.	of pure mannite.
Myrrh,	"	30	"	of pure myrrh resin, and
"	"	50	"	of gum.
Opium,	"	9	"	of pure morphine.
Rhubarb,	"	40	"	of soluble matter, whether in root or powder; none admissible but the articles known as East India, and Turkey or Russian rhubarb.

Sagapenum, 50 per cent. of resin.
" 30 per cent. of gum, and
Sagapenum 2 per cent. of volatile oil.
Scammony, 70 per cent. of pure scammony resin.
Senna, 28 per cent. of soluble matter.

"All medicinal leaves, flowers, barks, roots, extracts, &c., not herein

specified, must be imported, in perfect condition, and of as recent collection and preparation as practicable.

"All pharmaceutical and chemical preparations whether crystallized or otherwise, used in medicine, must be found, on examination, to be pure and of proper consistence and strength, as well as of perfect manufacture, conformably with the formulas contained in the standard authorities named in the act; and must in no instance contain over three per cent. of excess of moisture or water of crystallization.

"Essential or volatile oils, as well as expressed oils, used in medicine, must be pure, and conform to the standards of specific gravity noted and declared in the dispensatories mentioned in the act.

"'Patent or secret medicines,' are by law subject to the same examination, and disposition after examination, as other medical preparations, and cannot be permitted to pass the Custom House for consumption, but must be rejected and condemned, unless the special examiner be satisfied, after due investigation, that they are fit and safe to be used for medicinal purposes.

"The appeal from the report of the special examiner of drugs and medicines, provided for in the act, must be made by the owner or consignee within ten days after the said report; and in case of such appeal, the analysis made by the analytical chemist is expected to be full and in detail, setting forth clearly and accurately, the name, quantity, and quality of the several component parts of the article in question; to be reported to the collector under oath or affirmation.

"On such report being made, a copy of the same will be immediately furnished by the collector to the special examiner of drugs and medicines, who, if the report be in conflict with his return made to the collector, and he have cause to believe that the appeal and analytical examination have not been conducted in strict conformity with the law, may enter his protest in writing against the reception and adoption by the collector of such report and analysis, until a reasonable time be allowed for the preparation of his views in the case, and their submission to this department for its consideration.

JAMES GUTHRIE,
Secretary of the Treasury."

RECORD OF MEDICAL SCIENCE.

PATHOLOGY AND PRACTICE OF MEDICINE.

On the use of Proteine in Scrofula. By J. TAYLOR, Esq., L. A. C. —It was asserted in the year 1849, in your "Answers to Correspondents," that there were no remedial properties in proteine. *Nous verrons.* The same might be said of "milk," and yet, in some cases, this simple agent affords us very conspicuous evidence of its therapeutic quality, as the following case will show :—

Mr. W ——, aged thirty-three, a tall and well proportioned man, with blue eyes and light hair, had always enjoyed excellent health; he had lately invested a considerable sum of money as a coach proprietor, and being desirous of turning the affair to the greatest possible advantage, became the driver of his own coach, took long journeys, and was very irregular in his habits; says his principal drink has been old ale, which he has not taken in inordinate quantity, and although not intemperate, had evidently been taxing his energies too heavily. He soon became the subject of dyspepsia, and amongst its various Protean forms was a constant vomiting of food after every meal, which persisted, in spite of appropriate and well-selected remedies, for more than a month, and so distressing was the irritability of the stomach, that not the smallest quantity of food could be retained for more than half an hour at a time. In this state he was compelled to relinquish his calling as coachman, having become emaciated and debilitated, and was attended by his physician and myself. He had no pain or tenderness in any part of the abdomen; no morbid appearance of the tongue; no headache or any preternatural heat of skin. There was craving for food, but no pain after taking it. Bowels costive; urinary secretion scanty, but of normal character. The persevering use of medicine for nearly three weeks appearing to be of no avail, it was determined to abandon the use of drugs altogether, and the patient was directed to take *a teaspoonful of milk* every hour and nothing else. The first day's trial of this remedy was so gratifying, that the patient exclaimed, "I know it will cure me, as I feel so comfortable after each dose." And so it did; the vomiting immediately ceased, and did not return; he continued his milk in gradually increased doses for more than a week, and then carefully resumed his usual diet. His recovery was rapid. So much for milk. Now for proteine.

John H ——, aged five years, a scrofulous boy, born of scrofulous parents, has had enlarged cervical and inguinal glands since the period of dentition; has now numerous ulcers in various parts of his body and limbs; is pale and emaciated, with defective appetite; has been taking iron and other tonics, with and without iodine in combination, during the last six weeks, without any evident improvement. Ordered, three grains of proteine, to be taken three times a day, in sugar and water. After the first week the boy was decidedly better in his general health,

looked more healthy, appetite improved considerably. In a month the mother remarked "she never saw such a change;" the boy was growing plump, many of the ulcers had healed, though a few fresh ones had appeared. The dose of proteine was increased to four grains three times a day, and the ulcers to be dressed with zinc ointment.

Third month.—All the ulcers have healed except four, and when a fresh one appears it is much smaller than usual. Increase the dose of proteine to five grains three times a day.

Fourth month.—Three or four recent small ulcers still open; the boy's health so much improved that his aunt, who had not seen him for six weeks, did not know him again, and his father observed that as the boy was so much better, it would be needless to incur any further expense, and requested the medicine might be discontinued. The proteine was consequently omitted for a fortnight, and the little patient's health was observed to decline. The parents therefore requested the medicine to be resumed, and his health rapidly improved again. The proteine was continued for about two months longer, in not more than five-grain doses, twice, and sometimes only once, a day, embracing altogether a period of somewhat more than six months, when my little patient was observed to be quite well. It may be remarked that this solitary case proves nothing. I could produce others, but the following may suffice:—

Jane B——, aged two years, an emaciated, strumous child, with tumid abdomen and enlarged cervical glands, and numerous ill-conditioned ulcers on the loins, nates, thighs, legs, and arms, has evinced symptoms of mesenteric disease ever since weaning, at nine months old; has been under the care of a surgeon for a month, and during that time has been gradually getting worse. Ordered zinc ointment, and occasionally a poultice of equal parts of linseed-meal and wheaten flour to be applied to the ulcerated parts; and to take proteine, two grains, soda exsiccata, one grain three times a day, in sugar and water.

First week.—The skin has become cleaner and more healthy, and some of the ulcers have healed; several that are now open display in a very remarkable manner the appearance of softened tubercles; the child looks more lively; bowels regular; appetite better; takes beef-tea twice a day, and milk night and morning. To have mutton for dinner.

Second week.—Greatly improved in every respect; has begun to run about again, which she has been incapable of doing for the last six weeks; nearly all the ulcers have healed; abdomen smaller; has gained flesh; appetite excellent; bowels regular; sleeps well. Ordered the proteine to be continued in doses of three grains, soda exsiccata, one grain twice a day. The mother did not bring her again, but I saw her on passing the house a month afterwards, running about in excellent health and spirits.—*London Lancet.*

Chloroform in Obstruction of the Bowels from Spasms. By J. D. CAIN, M.D.—Every physician meets, in the course of his practice, with cases of obstruction of the intestines, which has come gradually or suddenly, generally from some cause of irritation existing in them. The obstruction in these cases consists of a spasmodic contraction of a portion, or of

portions of the intestines, generally the small. The plan I formerly pursued was, to cease all attempts at forcing a passage by means of cathartics, if one or two brisk cathartics failed, and to resort to opium freely, enemata of warm water, melted lard or butter, sweet oil, etc., the warm bath, fomentations of the abdomen, and other means of producing relaxation. For more than two years I have used chloroform, as a more powerful agent than opium, and its preparations, and as more certain in relaxing the muscular system. The chloroform administered in greater or less inhalation, soon produces a greater or less degree of resolution, and taking advantage of the relaxation thus effected, I give enemata, either stimulating, mucilaginous, or oily, which in a short time bring away fæcal matter. The inhalation may be repeated as often as in the judgment of the physician the case demands.

Chloroform possesses the immense advantage over opium, of relieving effectually and promptly the pain, and in not leaving the bowels in a constricted state, the sedative effect soon passing off.

Seven cases have thus been treated by me with highly satisfactory results. In one case only have I experienced any difficulty in inducing the requisite degree of relaxation of the bowels. The subject of this case was very slightly suspectible to its influence; but the pain was completely relieved by frequent inhalations, and the obstruction gradually overcome.—*Southern Med. and Surg. Journal.*

Treatment of Lead Poisoning by Iodide of Potassium.—The number of cases of poisoning by lead, received at the New York hospital during the past season, has been quite large. Some of them have been traced to the influence of lead paint as a cause, either in painters or in those who have remained in rooms newly painted; but, in many cases, the mode in which the poison was introduced into the system could not be detected. In cases of constipation, strychnia in doses of one-sixteenth of a grain, three times a day, has been given, and continued until the bowels were opened, or until the specific effects of the drug were produced. Other means have been used to assist its action; and evacuations from the bowels have been produced in some cases by croton oil, and, in other cases, by turpentine enemeta, when croton oil has failed. The strychnia is thought to obviate the tendency to costiveness which follows the use of drastic cathartics. One patient was permanently cured of the constipation by strychnia alone. The blue line about the gums has been recognized in every instance; and in one case there was a patch of deep blue color, of the size of a shilling piece, on the membrane lining the lower lip. All the cases of this disease, after the urgent symptoms are relieved, are now treated with the iodide of potassium, in doses of five grains three times a day, gradually increasing to ten grains, according to the plan proposed by M. Melsens, the results of whose researches have been repeatedly verified by finding lead in the urine after the exhibition of this remedy, when none could be detected in the urine of the same individual before taking it.—*N. Y. Medical Times, October*, 1853.

Upon the Pian or Yaws, a Disease of Tropical Climates. By M. GUYON.—This eruptive disease, called, from the raspberry-like color of the spots, frambæsia, appears to be contagious, and transmissible from generation to generation. Its transmissibility by inoculation is proved by the fact, that it has been conveyed from the tropical regions of America to Africa, doubtless by infected negroes landing from ships trading between the two countries. In Algeria, the native physicians consider it to be a sort of syphilis, and treat it as such. They direct, for forty days, a strict system of diet, under which the disease disappears, but it returns as soon as the patient reverts to his usual habits. From this fact, M. Guyon concludes, that the apparent cure is but a phenomenon connected with the general emaciation and disappearance of the scft parts.

In the Antilles, the treatment of yaws is entrusted to negroes, the same class of men who profess to cure serpent bites. They administer decoction of sarsaparilla and sulphate of ammonia. Some physicians, it is said, have tried with good effect mercurials combined with tisanes of guaiacum and sarsaparilla. The usual duration of the disease is four to five months. We require further investigations respecting it.—*London Medical Times.*

Spontaneous Gangrene in Glucosuria. By M. MARCHAL, of Calvi.—Two years ago the author observed a case of spontaneous gangrene in a diabetic patient, who first lost the little toe, and, continuing to void sugar in the urine, eventually succumbed with gangrene of nearly the entire foot. Since this observation, made fifteen years ago, Dr. Landouzy, of Rheims, communicated a case of gangrene of both legs in a diabetic patient. A third case has occurred recently.

M. Marchal was called into consultation, near Paris, to see a patient suffering from two gangrenous spots upon the dorsal region. One, very large, and surrounded by phlegmonous redness and œdema, extended along the outer part of the left thigh. The patient, upon inquiry, stated that, for many years, he had drunk much, and had voided large quantities of urine. The urine, examined by M. Duroy, an experienced chemist, yielded much sugar. As in one of the preceding cases, the patient had suffered frequently from boils in various parts of the body, M. Marchal purposes carrying on his investigations further at a future period, but thought the fact of sufficient importance to lay before the Society.—*Ibid, from L' Union Medicale.*

MATERIA MEDICA AND THERAPEUTICS.

Antiperiodic Properties of the Humulus Lupulus. By W. Y. GADBERRY, M.D., of Benton, Miss.—As a substitute for quinine is a great desideratum on account of its enhanced market value, I have thought a brief notice of the antiperiodic virtues of the humulus lupulus, or common hop, might not be unacceptable to the profession. I am not aware that any author has ascribed to this plant any such virtue. Having

used it for nearly two years I can confidently state that its antiperiodic properties equal, if they do not exceed, those of any other article of the materia medica with which we are acquainted, quinine alone exc pted; and, indeed, in my experience, it has often succeeded in arresting intermittents after that remedy had failed. It is harmless in its effects, and will often be borne by patients who cannot take quinine.

Every practitioner is aware of the advantage of combining an anodyne with antiperiodics; and by reference to the works on materia medica, the reader will see that hops possess these properties. When administered alone the infusion is preferable, and should be made of double the strength prescribed by the Dispensatory. One ounce infused in a pint of boiling water may be taken during the interval, or a larger quantity if necessary. If the secretions are properly regulated, and there exists no enlargement of the spleen, it will rarely fail to effect a cure of tertian or quartan ague. It has not succeeded so well in the cases of quotidian type as in those of more protracted intervals. The tincture was used alone in three cases successfully. The following combination is worthy a trial by all who desire a safe and efficient substitute for quinine:

℞. Tinct. hops, tinct. Peruvian bark, aa ℥ iv.
Pulv. black pepper, ℥ ss.

To be given in doses of half an ounce every two hours during the interval.

My limited experience will not justify an opinion upon the antiperiodic virtue of lupuline, not having used it except in combination of quinine. Patients to whom I have administered this combination prefer it to quinine alone, on account of its soothing effect upon the nervous system. The hop is indigenous to this country, growing abundantly in almost every garden; and if I have not over estimated its antiperiodic virtue, it will prove a blessing to the poor, in whose welfare the physician should always feel a special interest.— *West. Journ. Med. and Surg.*

New Anti-Periodics.—Dr. Holton recommends *Prairie Dock—Parthenium Integrifolium*—as a remedy for periodic fever. He considers a decoction of two ounces of the dried tops of the plant, the equivalent of twenty grains of quinine. This is placing a higher value upon its remedial powers than has been accorded to any other substitute for cinchona, or quinine, that has been discovered. It proved successful in thirty successive cases, some of which were severe; and without any unpleasant effect upon the nervous system. If these observations are confirmed and established by further experience, the remedy will be of immense value. The root of the *Yellow Jessamine—Gelseminum Sempervirens*—has also been recommended as a valuable substitute for quinine. It is said to be of this root that the "*electric febrifuge*" is made, which is now used pretty extensively in the South, as a nostrum. The efficacy of this remedy is certified to by the usual number of *respectable* names, including, of course, dignitaries of the church; and we have seen it—the Jessamine—highly extolled in several medical journals.—In all the accounts we have seen, however, it has been used in conjunction with such large quantities of quinine, as to preclude the possibility

of forming a correct judgment of its anti-periodic efficacy ; and the same is true of the electric febrifuge. Whether the two remedies be identical or not, they are both powerfully narcotic, and it is probable their remedial virtues are due to this quality. But we have no reason to suppose them superior to the stramonium, and other narcotics which have been in use as febrifuges from time immemorial. A species of *Verbena*, we believe the *V. verticifolia*, has been successfully used as an anti-periodic in the neighborhood of this city. Several families which have been annoyed by intermittent fever, declare that they have found this herb commonly called vervain, or vervine—so efficacions as to supersede the use of quinine. They use the green herb itself, in decoction.—*Memphis Medical Recorder.*

A Case of Poisoning by Ruta Graveolens. By George F. Cooper, M. D., Savannah, Geo.—Isaac, a negro man, æt. 35, of good constitution and habits, had dysentery for six days, which was apparently confined to the rectum and for which he received mild treatment, without, however, any decided benefit. The disease seemed gradually to abate, and on Saturday, 14th Aug., '52, 7. A. M., he was entirely clear of any febrile excitement and only suffered slight tenesmus upon going to stool. He was so nearly recovered that I did not expect to visit him again. It seems he became dissatisfied with his slow rate of improvement and determined to expedite it if possible. He procured a handful of Rue, and after contusing it, he added about ʒiv of brandy, which he obtained from his owner, and after expressing it, took three drinks in pretty quick succession. It is proper to state he went after the brandy himself—forty or fifty yards—and his master regarding him as so nearly well, without hesitation let him have it. Violent symptoms were developed in the course of an hour, and I was sent for, but, being absent, did not reach him until about two o'clock, P.M., when I found him in the following condition : nausea and vomiting, violent abdominal pains and tenesmus, with frequent thin, bloody dejections, abdomen tender and considerably distended, troublesome irritation of the neck of the bladder giving rise to frequent and painful efforts at micturition. The fever was not of a high grade, skin being somewhat above the normal temperature and perspirable. The thirst was not very urgent, tongue clear, his pulse was from 90 to 95 and very irregular, his countenance expressive of much anxiety and he very restless, respiration but little hurried. Venesection was performed to the amount of 15 or 20 oz., or until the circulation was impressed. Large doses of opium—from grs. ij to grs. iij. in conjunction with the same quantity of Hydrarg. C. Creta and Acet. Plumb. were ordered every 2 or 3 hours. Mustard Cataplasms to the abdomen and diluent drinks. His abdomen was also cupped. Aug. 15. Not at all improved, except that he does not suffer so much pain as on yesterday. Dejections from his bowels continue undiminished in frequency and same in character and are exceedingly offensive. In the afternoon as there seemed to be no great degree of general excitement, at least not enough to forbid it, and as he appeared in no wise better, I gave him gr. ½ Nitrat. Argent. combined with gr. 1 Opium every 2 or 3 hours.

Continuing the former powders at prolonged intervals, 6 by 8 emplast. cantharid. was ordered upon the abdomen at intervals. 16th.—I found this morning that his stools were not so frequent nor offensive, their character otherwise remained apparently the same. Pulse still very irregular, from 90 to 95, with rather a better volume than before; in other respects in statu quo. In the afternoon, as he appeared partially narcotized, the above treatment was withheld and he placed upon Turpentine emulsion and Sol. Chlorid. Sod. He now became so annoyed with irritable stomach and real convulsive hiccough that it was with great difficulty that he could retain any article of diet or medicine, the presence of the slightest amount of either gave rise to the latter in a most distressing form. Nothing done had any good effect, he continued to sink and died on the 19th. I would remark, I have never seen an instance where the stools were as frequent, and in no case have I observed the powers of nature to resist so long such a strain. For the first two or three days two vessels had to be used, one could not be emptied and returned with sufficient dispatch for his use. It is to be regretted that an autopsy was not made. The case, I presume will speak for itself, and its cause I apprehend will not be questioned. This article (Rue) has been used to procure abortion, and the effects as recorded by other observers seem to quadrate with those laid down above.—*Nashville Journal of Medicine and Surgery.*

White or Imperial Rhubarb. By Dr. G. Walpers.—In all works on Pharmacology there occurs a somewhat vague account of a very superior kind of rhubarb, said to be collected for the sole and particular use of the Imperial Court of St. Petersburgh, and distinguished by the name of *White* or *Imperial Rhubarb* (*Radix Rhei alba seu imperialis.*) It is described as a rhubarb root in which the white portion so far predominates that only a few red streaks are perceptible upon the surface of a transverse section. No one, however, is from personal knowledge acquainted with this species of rhubarb. In order to put an end to these doubts, I some time since addressed a letter to Mr. Buchner, Chief Apothecary to the Imperial Court, begging him for a small specimen of this "*Imperial Rhubarb*" for my pharmacological collection, or should the communication of this precious drug be inadmissible, that I might at least have an authentic description of it. Mr. Buchner replied to this request with the utmost promptitude, informing me that, after having instituted the most careful inquiries, it appeared that no such species of rhubarb had at any time been imported for the Imperial family; that it had never occurred in commerce; and, finally, that in neither any public or private collection in St. Petersburgh was there to be found a specimen of this (consequently mythical) root.—*Bonplandia*, for March 15, 1853.

[It was the Russian traveller, Pallas, who first drew attention to the so-called *White Rhubarb*. We extract from his works the passage relating to it: "J'ai vu pendant mon sejour à Kiakta des petits morceaux de rhubarbe blancs comme du lait. Elle est douce au goût, et a les mêmes propriétés que celle de la meilleure qualité. L'apothecaire se

proposoit de trier tous ces morceaux, et de les envoyer separément á Petersburg pour la pharmacie de la Cour.'—*Voyages de M. P. S. Pallas, en différentes, Provinces de l'Empire de Russie, et dans l'Asie Septentrionale, traduits de l' Allemand.* Paris, 4to, 1793, tome iv. p. 219.—Ed. *N. Y. Ph. Journ.*]

Poisoning by Sir William Burnett's Disinfecting Fluid. By Richard Hassall, M. D.—The first case I have to relate is one of unusual interest. In the first place, the instances of poisoning by chloride of zinc which have been placed on record are very few; in the second place, the train of nervous symptoms observed was of a most remarkable character; in the third, the efficacy of prompt treatment is illustrated in a very striking manner.

In the systematic writing of our leading toxicologists no mention is made of chloride of zinc as a poisonous substance; the only salt of zinc referred to as possessing any interest in this respect is the sulphate. Even Dr. Taylor, in his elaborate work on "Poisons," bestows upon the chloride but the most cursory notice, and the subject is evidently suggested to him rather by the methodical arrangement of his matter than from any precise information as to its toxicological properties.

Dr. Stretton has recorded two cases of poisoning by chloride of zinc. In one, twelve grains of the salt were taken; in the other, two hundred grains dissolved in a wineglass full of water. Both the patients recovered. In the *Medico-Chirurgical Transactions* for 1850, a most interesting case, which terminated fatally, is detailed by Dr. Letheby; and it is to the same paper that we must look for whatever accurate knowledge we possess of the poisonous properties of this substance.

In May, 1851, a man who a week previously had taken some of Burnett's fluid by mistake for gin became a patient at the Metropolitan Free Hospital. His first symptoms were described to have been severe pains in the stomach, distressing vomiting, frothing at the mouth, and a livid countenance. He appears to have got over the immediate effects of the poison, without any treatment whatever. After a week there was great emaciation, weakness, pain in the stomach, and constant sickness. Under treatment, which does not seem to have been guided by any precise indications, he gradually recovered. A few other cases are casually reported, but too concisely to permit of any definite conclusions.

That instances of poisoning by chloride of zinc should be rare is a matter of surprise, when we consider how common is the use of Sir William Burnett's fluid; and when attention is called to the circumstance which led to the accident I am about to relate, this surprise will be very much increased. A gentleman was very much in the habit of having recourse to a draught of Murray's fluid magnesia for the relief of occasional sickness. One day, being about to sit down to dinner, sickness supervening, he called for his usual draught. About three ounces by measure of a liquid was brought to him, and rapidly swallowed. It turned out that a bottle of Sir William Burnett's fluid was in the house for disinfecting purposes; out of this bottle my patient had been

supplied. On comparing the two bottles, it was observed that their size and shape were closely similar—the resemblance even extended to the labels; and in short the general aspect of the two was so nearly identical as readily to favor a mistake. Sir James Murray's fluid magnesia has been in general repute for many years; and it is very much to be regretted that in introducing Sir W. Burnett's fluid care was not taken to adopt some distinctive character for the bottles. The risk of mistaking a dangerous poison for a harmless medicament ought surely to be avoided.

On the 6th of November, 1852, at about six P. M., three ounces by measure—probably four ounces three drachms, troy, by weight—of Sir Wm. Burnett's disinfecting fluid were hastily swallowed, as I have already mentioned. As this took place just before dinner, it may be inferred that the stomach was empty. This circumstance it is important not to pass over, since it must have operated in a two-fold manner to augment the danger of the case. The irritant and even corrosive fluid was brought into immediate contact with the coats of the stomach, and the system would be in the most favorable condition for absorption.

The first symptom experienced was a sense of constriction in the fauces, and then a hot, burning sensation in the stomach marked the arrival of the fluid in that organ. There was no pain in the mouth, or even in the œsophagus, nor was there any appearance of corrosion about the lips or mouth. This I account for by the suddenness with which the draught was gulphed down, leaving no time for any local effect. Almost immediately after the accident, the case was also seen by Mr. Hancock, Dr. Seaton, and my brother, Dr. Arthur Hassall. Within two minutes a quantity of water was swallowed, and vomiting was excited by thrusting the finger down the fauces. Ten minutes were consumed in getting ready a quantity of eggs and milk; when these were procured they were liberally administered. Vomiting was renewed by irritating the fauces, but it is remarkable that it did not set in spontaneously for nearly an hour. After this time the mixture was thrown off instantly after being taken, by the most violent action; it returned as a solid, coagulated mass; one portion of which was so large and so firm as almost to cause suffocation. This treatment was kept up throughout the night, and until two P. M. of the following day, the patient vomiting continuously, and rejecting the milk and eggs in the same curdled state. In the evening blood appeared in the vomited matter, a quantity of mucus, and a portion of mucous membrane measuring an inch and a quarter square. Throughout the third day the vomited matter was still streaked with blood. There was no action of the bowels until the third day, when they acted spontaneously; the stool was of a black, coffee-ground appearance, and entirely wanting the odor of fæces. The urine presented nothing unusual.

From the beginning the patient experienced the most distressing headache, and utter inability to sleep, and violent "clawing" pain in the stomach. This "clawing" in the stomach persisted in great severity for a long time, and even now (March, 1853) is felt when the stomach is empty. On this (the third) day, the pain described was felt in-

tensely, but there was no tenderness on pressure; the pulse was 90, and had no remarkable character. Leeches were applied to the epigastrium, and followed by poultices. This gave no relief; indeed this was only obtained by taking bland, warm things, such as gruel, arrow root, and milk. Opium brought no ease. There was an excessive nervous derangement and prostration, tremor of the limbs, and a great disposition to pick the bedclothes; a feeling of sinking, and an urgent craving for food; the tongue was intensely red.

It was quite a fortnight before anything but black stools appeared; then they were pale, clayey, dry, and crumbling, showing no evidence of bile. The bowels being, moreover, sluggish, an occasional pill of blue-pill and rhubarb, and a draught of senna and tartrate of soda, were taken. These gave no pain or inconvenience; the stools gradually improved, but it was six weeks before the proper proportion of bile appeared, and they assumed a natural appearance. Throughout this time there was no natural appetite, but a morbid craving for something wherewith to allay the irritation of the stomach. From the third day the skin assumed a ghastly bluish-green tint; this lasted for a long time, and has not even yet quite disappeared. Great emaciation was observed; the skin looked as if it was stretched tightly over the bones of the face and hands.

I have now to detail the curious train of nervous symptoms which attended this case. The prostration, muscular tremors, wakefulness, were early observed. The sense of smell underwent a singular perversion: every kind of roast meat, if ever so slightly burnt, roasted coffee, tea, &c., had to my patient an intolerable putrid odor; roast mutton was especially offensive. Scents and perfumes prepared with alcohol gave an odor resembling that of hemlock; on the other hand, putrid and fæcal matter had no apparent odor at all.

The perversion of taste was not less remarkable; and the points of resemblance between the phenomena of taste and smell, served to illustrate the relation existing between these senses. Roast meats and crusts of bread were intolerable; and most foods had a burnt taste, especially *raw oysters*, which resembled burnt flour, and felt quite dry, clinging to the mouth. Things naturally insipid, such as the crumb of bread and potato, gave a more natural flavor and were better relished. Acids did not taste acid, nor alkalies alkaline, and to him quinine was not bitter.

These peculiarities continued strongly marked for some time, and the senses of smell and taste are still imperfect.

I have now to return to the history of the case. A gradual improvement was made for the first two months, the urgency of the symptoms described having subsided. Too early a return to accustomed avocations, while the strength was still low and the nervous system had not yet recovered its equilibrium, brought on an attack of illness of extreme severity. The patient was seized with symptoms resembling the onset of influenza; there was excessive nervous prostration, hyperæsthesia, and great irritability, which passed into a condition resembling tetanus; no noise could be borne; the slightest shock caused a start; if the bedclothes touched the toes, tremors approaching convulsions ensued. For five

nights there was no sleep. There was a terrible pain in the right side of the head, which would last for hours; when this subsided, nausea and retching ensued; the pulse rose to 120 or 130. There was some febrile movement; the skin was alternately very dry and moist. During this secondary attack the liver again evinced a sluggishness of action, and the urine, which hitherto had been normal in quantity, became excessive; on one occasion seven pints were passed in five hours. In the first instance blue-pill and ipecacuanha and salines were ordered. For fourteen days the patient was confined to his bed, when the intensity of the symptoms had subsided, he still complained of the gnawing of the stomach. Dr. Wilson was consulted, and magnesia, with bismuth and hydrocyanic acid, were prescribed, and attended with some relief. A gradual improvement has again taken place, but the natural hue of the skin has not quite returned; the taste and smell are still impaired; the pain in the stomach is occasionally felt, and the general strength is reduced.

I will not lengthen this communication by entering upon a minute analysis of the symptoms observed, but I must beg to arrest attention to some points of especial interest. The poisonous action of chloride of zinc—that is, in that state of concentration in which it is found in Burnett's fluid—is of a double character: it has a local corrosive action, and a general toxical effect, the result of absorption.

I have already endeavored to account for the absence of any appearance of corrosive action in the present case about the lips or mouth by the rapidity of swallowing. In Dr. Letheby's case, however, corrosion was marked; "the lips were swollen; their inner surface and the lining membrane of the mouth presented an opaque white appearance;" and "when the child attempted to swallow water the greater part returned by the nostrils." The local action of the poison was also marked by the "hard and leathery" consistence of the stomach after death; but although in the case before us the mouth and œsophagus escaped, I cannot doubt but the stomach suffered; the vomiting of blood, the shred of mucous membrane rejected, and the passage of blood by stool indicate some sign of local injury; and this was the more likely to occur from the stomach being empty. Had food been present the chemical action of the poison would have been spent upon it, and the coats of the stomach would have been more or less protected. One circumstance in connexion with this local action deserves especial notice on account of its bearing on the treatment of similar cases of poisoning. It might, *prima facie*, be concluded, that the salt would speedily be decomposed, and removed in altered combinations by a moderate supply of albuminous matter and vomiting; but this does not appear to be the case. An enormous quantity of eggs and milk was passed through the stomach, and yet for many hours it was constantly rejected, strongly coagulated from the action of the poison. Dr. Letheby also detected a considerable quantity of chloride of zinc in the tissues of the stomach in his case, although vomiting had taken place. From this consideration, then, fortified by the successful issue of the case, I would strongly urge the necessity not only of a copious but a long-continued supply of albuminous matters. I think it the more important to refer to this point, because the treatment of

poisoning by chloride of zinc is still unsettled or misunderstood. In one of Dr. Stretton's cases, soap-suds were administered, and in the case referred to at the Metropolitan Free Hospital. The physician who had charge of it, in reporting the history, recommended that soap or carbonate of potash or soda should be given in order to throw down carbonate of zinc. This practice is doubtful. The carbonate of zinc, although insoluble, might still be injurious; certainly calomel, carbonate of lead, sulphate of baryta, and other substances, cannot be said to be inert. The constitutional effects of the poison in this case are well marked; one of the earliest manifestations of the absorption of the poison into the blood is remarkable. The ghastly, bluish-green color of the skin can be attributed to no other cause than to the action of the poisonous compound (probably more especially of the chlorine) on the blood. It is unnecessary to refer at length to the nervous symptoms already detailed. It must be difficult to analyze the constitutional symptoms, and to determine how much is to be attributed to the hydrochloric acid and how much to the zinc. The experiments, however, of Orfila, Blake and Letheby, seem to prove that the nervous symptoms are dependent upon the zinc. Dr. Letheby is of opinion that the poison enacts a distinct and specific action on the motor and organic system of nerves. The excessive prostration, the strange perversion of the senses of smell and taste, the tremors of the limbs, and the tendency to tetanoid convulsions, observed by myself, would appear to corroborate this opinion.

As the recorded cases of poisoning by chloride of zinc show that this substance does not generally cause death in consequence of its primary corrosive action, it is a point of especial interest to consider by what means the elimination of the salt from the system can be promoted, and its secondary effects obviated or mitigated. The three great depurating sources are the liver, the kidney, and the skin; but it requires some caution before determining upon stimulating these organs to action. As in the case of poisoning by arsenic, chloride of zinc appears strongly to irritate, if not to inflame, the kidneys. In Dr. Letheby's case, the kidneys were greatly congested; in my case, the kidneys did not appear in the first instance to be much affected. The effect upon the liver was more marked; the arrest of its action was no doubt one reason why the poison was so long delayed in the system. Possibly more advantage might have been taken of the favorable condition of the kidneys. Are we to regard the excessive diuresis which marked the second attack as an effort of Nature to get rid of the poison remaining in the system? The peculiar character of the symptoms attending that attack clearly show that the system was still laboring under its effects. Before putting an increased strain upon kidneys, however, we must take care to ascertain that they are free from any congestion or inflammation. If they should be in this condition, then we must turn to the liver, and especially the intestines. Saline purgatives, with jalap, might be employed with advantage; and at the same time every effort should be made to promote the free action of the skin; warm baths and friction would be of most material assistance. M. Bonvier, in treating cases of zinc-poisoning among workmen engaged in oxide of

zinc manufactories, detected zinc in the washings of the skin. A similar fact has been long known with reference to lead-poisoning.

I cannot quit this case without once more insisting upon the propriety of so altering the appearance of the bottles in which Burnett's Fluid is sold as to obviate the possibility of its being again taken by mistake for fluid magnesia.—*Lancet.*

OBSTETRICS.

Uva Ursi, a substitute for Ergot. By E. G. HARRIS, M.D., of Fayette, Alabama.—I wish to call the attention of the medical profession to Uva Ursi, as a substitute for Ergot, in producing uterine contraction. Whether it will produce all the effects, or answer all the indications of that drug, I am not able to say; but I do know, that it will produce considerable uterine contraction when given during labor. Since December last, I have given it in five cases, in all of which it acted more efficiently than ergot. In three of these cases the pains had ceased entirely, from exhaustion of nervous energy. A strong decoction of uva ursi was given every ten minutes, and in thirty minutes the pains had increased considerably, and in from one to one and a half hours, the delivery was effected and the placenta expelled, the uterus contracting well, and no untoward symptoms taking place. In the other two cases the pains had not ceased, but were fast doing so. I gave them bountifully to two of my *new parturients*—one of them was delivered in fifty minutes, the placenta following in less than five; the other in an hour and twenty minutes, the placenta in ten. In all these cases the head occupied the superior strait at the time I commenced giving the medicine, in consequence, no doubt, of inefficient uterine contraction. The os uteri was in good condition in all the cases. Directly after the exhibition of the uva ursi, the pains would become strong and propulsive, lasting about the ordinary length of time; then going completely off, leaving the patient free from pain, except that produced by pressure upon the soft parts; the placenta soon followed; the uterus contracted well, and no hemorrhage more than ordinary. There was little or no tonic contraction until after the expulsion of the placenta, when it was complete.

I am aware these five cases are not sufficient to establish its reputation as a therapeutic agent in labor, yet the result of the past encourages me to give it a further trial; and should its use in the future prove as successful in the hands of my professional brethren as it has in mine, I shall feel amply rewarded for any trouble I may have been at in bringing it to their notice. I was first induced to use it by being called to a case where the pains had ceased; and having no ergot, and knowing the effect it had on the kidneys and bladder, I gave it as above described. I prefer it to ergot, for the following reasons:

1st. Because there is no danger in it; you may give it *ad libitum*. It is well known that ergot often produces nausea and vomiting, and sometimes slow weak pulse, cold extremities, dilatation of the pupils, &c.

2d. Although it increases the propulsive efforts of the uterus, yet it does not produce that tonic contraction which is so painful to the mother,

and at times so hazardous to the life of the child, until after the delivery is affected: this is generally far otherwise with ergot. More than once have I seen a young and healthy mother give birth to a well developed but dead infant—not from the poison being absorbed by the mother, and through the circulation destroying the child, but *alone* by the powerful tonic contraction of the uterus compressing the umbilical cord, arresting the circulation, &c. Often have I seen the placenta retained for hours, and in two cases for a day and night after it had been entirely detached from the uterus, by the firm and unyielding grasp of that organ—*all brought about by the free administration of ergot.*

My plan for giving it is as follows:

℞. Uva ursi, a good article, 2 oz.
Boiling water, 1 pint.

Pour the water on the leaves in a pitcher or bowl, stir it till it becomes cool enough to drink, and give one-fourth as hot as it can be drank every ten or fifteen minutes, until it has the desired effect. Attention should always be paid to the condition of the os uteri, dimensions of the pelvis, &c.—*Southern Med. and Surg. Journal.*

Anteflexion of the Uterus as a normal condition prior to Pregnancy. By M. Boulard.—A few years since, a very animated discussion took place at the Academie de Médecine, upon the subject of engorgement of the uterus. M. Velpeau was one of those who maintained that anteflexions of the uterus are often mistaken for engorgements, while other speakers declared anteflexion itself to be a very rare occurrence. M. Boulard, engaged in searching for examples of the deviation for Velpeau, was at once struck by the frequency of its occurrence in young subjects, while in older ones he scarcely ever met with a case, without, from the examination of the other organs, ascertaining that the subject of it had never been pregnant. After in this way collecting a great number of uteri from the dead-house, M. Boulard resolved to study the point during the development of the organ, and found that the uterus is almost always anteflexed in the fœtus. He has continued to pursue the investigation from that period; and the present paper is founded upon the examination of 27 adult female subjects who had never borne children, 19 young girls from two to thirteen, and 57 full-timed fœtuses. In 98 of these anteflexion has been found, and to such a point is the body bent upon the neck, that it is not possible to prevent its regaining the same position immediately after the attempt at replacing it has been made. Since these observations have been made, the author has sought every opportunity of verifying them in the living subject; but he has only had ten opportunities of examining the position of the uterus in the virgin, and in all of these the anteflexion existed.

M. Boulard accounts for this disposition having been overlooked by anatomists, by the fact that the bodies of women who have borne one or more children are those which are usually brought for dissection; and the organ is examined only after it has undergone this physiological change, or under the influence of the relaxed state of the tissues after death. When anteflexion has been noted, it has been considered as an

abnormal and diseased condition, and regarded as a cause of suffering which was due really to some morbid condition which had become accidentally associated with it.—*Brit. and For. Med. Chir Rev. from Rev. Med. Chir.*, xiii. 341.

On the Effects of Menstruation on the Milk of Nurses. By MM. Becquerel & Vernois.—Upon this effect, which the occurrence of menstruation exerts in women who are suckling, there is discrepancy of opinion among authors, the majority, however, with the public at large, believing in its deteriorating influence. So great is the difficulty in obtaining true statements upon this point, that among the great number of hired nurses in Paris, the authors have only been able to examine the condition of the milk in three women while actually menstruating. In these the density of the fluid was found slightly diminished, as was the proportion of sugar, and the proportion of water was sensibly so. The solid parts were notably increased, especially the caseine. The authors cannot believe that such changes in composition can induce any mischief beyond some temporary derangement in the digestive organs, and even this might be prevented by causing the child to suck less, and letting it drink a little sugared water, to replace the sugar and water lost during menstruation.

In the discussion that followed reading the paper, M. Roger observed, that while attached to the Office for Nurses, he had paid considerable attention to this point, and that he had arrived at the following conclusions:—If the menses reappear easily, without pain or derangement of the nurse's health, while her milk is under 12 or 15 months old, and the quantity of blood lost is normal and moderate, the quantity of milk does not become diminished, or its qualities altered, and the child does not suffer from its use. If, however, the menses are too abundant or too frequent, the milk may diminish in quantity or disappear. The same effect is also produced, though more slowly, in some days or weeks, when the menses are prolonged for a week, so that the loss is considerable. The milk will much more certainly dry up if the menses reappear at an advanced period of lactation—this being then the signal of the imperfection and approaching termination of the secretion.

When the milk becomes thus diminished, it rarely exhibits the physical characters of the poor milk; but by its density, whiteness, and the excess in number and size of its globules, it more approaches in character and richness cow's milk. When the menstrual epochs reappear with difficulty, and are attended with pain, indigestion, diarrhœa, &c., or are preceded or followed by leucorrhœa, the child may suffer symptoms due to indigestion induced by the altered characters of the milk—the alteration of the milk chiefly consisting in increase in the number and size of the globules. These influences are, however, only temporary, and the milk soon recovers its normal character. The ailments which the child hence suffers are only temporary, and have been greatly exaggerated. —*Ibid, from L' Union Medicale*, No. 70.

SURGERY.

Upon Fluids which stop Hæmorrhage. By SEDILLOT.

Eau de Pagliari, consisting of Tinct. Benzoes, ʒviii.
Alum, lb. i.
Water, lb. x.

This preparation, which has a pale straw color, and is transparent, possesses an extraordinary power of coagulating blood.

Eau de Rabel, consisting of Acid. sulphur., 100 parts.
Alcohol, 300 parts.

The acid should be poured upon the alcohol slowly.

Baume de Compignt has not yet been analysed, but appears to contain an empyreumatic oil.

Eau de Hepp is a modification of the Eau de Pagliari.—*London Med. Times.*

Artificial Membrana Tympani.

[To the Editor of the Modical Times and Gazette.]

SIR,—Allow me, through the medium of your Journal, to suggest to those medical men who are using the artificial membrana tympani, that when it is not in use it should be kept in water. By this means it retains its form, and it is kept quite soft. As at present manufactured by Weiss, the artificial membrana tympani is made of vulcanized India-rubber, not much thicker than ordinary writing paper; I find this material preferable to gutta percha, which is apt to wrinkle.

I am, &c., JOSEPH TOYNBEE.

Treatment of Aneurism by injecting into the sac a concentrated solution of the Perchloride of Iron.—At a meeting of the London Medical Society, in the early part of April, Mr. Gay read the account of a case (of which the following is an abstract) lately communicated to the Societé de Chirurgie, by M. Larrey, and forwarded to this country by Dr. Costello. In the month of January, Dr. Pravaz of Lyons, made known to the Academie des Sciences a new method of effecting the coagulation of blood, by mixing with it a cencentrated solution of the per-chloride of iron; and, at the same time, suggested the employment of this agent for the cure of aneurism. M. Delongchamps, an army surgeon in the same town, followed up the suggestion, and with the happiest results, as the following narrative will show:—

A blacksmith of Le Maus, æt. 26, met with a blow over the left eyebrow. This was followed by an aneurism of the supra-orbital branch of the ophthalmic artery, which gradually increased in size, until it had attained that of a pigeon's egg. Continuous pressure was made over the tumor, by means of a pad and spring, for twenty-five days and nights, but without any benefit; and as the patient was unwilling to submit to the process of electro-puncture, and other remedies did not appear to be suitable to the case, M. Delongchamps decided on trying the proposal of Dr. Pravaz.

On the 4th February, an oblique puncture was accordingly made through the walls of the sac, and whilst compression was made on the

artery above and below, a few drops of the solution were injected into it, by means of a small glass syringe with a fine point. A few drops of florid blood followed the withdrawal of the syringe, but without jet; a few more drops of the solution were then injected, and it became at once evident that these had produced the desired effect; for the blood in that portion of the sac into which the nozzle of the syringe had been introduced became rapidly firm, and pulsation ceased. In the remaining portion of the sac, however, no such change took place, which arose from the fact, that a firm plug of coagulum had formed in the orifice of the syringe during the operation, which no force on the piston could dislodge, and prevented the escape of a quantity of the solution sufficient to coagulate the whole of the blood within the sac. The patient suffered no pain, nor did he desist from his ordinary work. On the 6th of February, as the success of former operations had only been partial, ten or twelve drops more were injected, the nozzel of the syringe having been previously well greased, in order to prevent the formation of a plug, as on the former occasion. A sharp burning pain followed, and the contents of the sac could distinctly be felt to be undergoing a process of solidification. Not a drop of blood escaped this time on the withdrawal of the syringe, and pulsation ceased entirely. On the 7th, the patient suffered some throbbing pain and restlessness, and the tumor became swollen and hot. These symptoms, however, subsided quickly under the use of evaporating lotions, etc.; so that, on the 8th, the patient could resume his work. A slight oozing of pus through the last puncture took place a few days afterwards, and with this a subsidence of the tumor. By the 15th of March, the cure was so far advanced, that its situation could scarcely be recognized.

Mr. Gay expressed his opinion, that the treatment of aneurism by the method referred to was deserving of every attention; but that at present its employment should be confined to smaller aneurisms. The affinity of the perchloride of iron for fibrin is so strong, that its coagulation commences as soon as they come into mutual contact; and so firm is the clot that ensues, that no fear need be entertained of any shreds being washed away by the circulating current. As a styptic, this and other experiments that have been made, prove that it is invaluable.—*Edinburg Monthly Journal.*

ANATOMY AND PHYSIOLOGY.

Upon the difference of Temperature between Venous and Arterial Blood. By G. V. Liebig.—Former investigations upon this subject have led to conflicting results. Most of the older observers, such as Haller, Crawford, Kramer, Scudamore, &c., having declared, that the arterial blood (in the left cavities of the heart) is warmer than the venous blood of the right cavities by 1°; while A. Cooper, Coleman, Mayer, Autenrieth, etc., either pronounce the temperature of both kinds of blood equal, or give to the venous blood an excess of temperature over the arterial of 0·5°. The author proceeds, in his attempts to explain these differences, to inquire, whether the higher temperature be found in the blood flowing from the lungs, or in that from the capillaries, and he reverts to some of his former observations upon "muscular respiration."

The experiments were conducted both upon living and recently-killed animals. That death might be caused quickly, and without loss of blood, the medulla oblongata was severed in some instances, and narcotin was administered in others. The thermometer was introduced, either by the jugular vein or the carotid artery, to the requisite depth of the heart; or it was inserted into the crural vein, or the vena cava abdominalis. Respiration was prolonged after death, when necessary. The experiments were performed upon dogs, and with every possible precaution to avoid errors,

The results were—1. That the temperature of the blood in the right cavities of the heart exceeds that of the left cavities by 0·05°; 2. That the blood flowing into the heart by the vena cava descendens is cooler than that from the vena cava ascendens (probably because the blood which the former vessel contains comes from parts which presents to the atmosphere a very great extent of surface in which a process of cooling takes place.)

In the venous system, there go on changes of temperature corresponding with the respiratory act. In the vena cava superior it was remarked that at the end of each inspiration the temperature of the blood rose; between inspiration and expiration it attained its maximum; towards the end of expiration it fell; and was at its lowest point after expiration. When animals breathe, or rather expire, shortly and quickly, and then inspire deeply, the variations of temperature are greater than usual. When the thermometer is in the right auricle, the highest degree corresponds with inspiration, and the lowest with the beginning of expiration. When the breathing is very short and hurried, these changes of temperature become diminished, or even cease altogether. In the vena cava abdominalis the same phenomena were not observed; in the vena iliaca they were reversed, the maximum occurring after expiration, and the minimum after inspiration.

The author then remarks upon the mechanical influence exerted by the respiratory movements upon the circulation in veins. The enlargement of the thoracic, and the diminution of the abdominal cavities, coincident with inspiration, cause the blood of the vena cava ascendens to flow into the right auricle, during and especially at the end of inspiration. The contents of the vena cava descendens are less than those of the vena cava ascendens, and they are cleared out at the beginning of inspiration. During expiration the abdominal cavity is widened, and the vena cava abdominalis gains both in space and contents. Towards the end of inspiration, the auricle will therefore be filled by the warm blood of the vena cava abdominalis; and at this moment is observed the highest degree of variation in the heart's temperature. In expiration the blood streams into the auricle chiefly from the vena cava descendens, and then is remarked the minimum of temperature. As regards differences of temperature in different parts of the same system, the author found the blood of the vena cava sup. 0.16°, and that of the auricle 0.20°. Between the auricle, where the blood from two vessels of different temperature is not completely mixed, and the ventricle, the difference amounted to 0.1—30.20°.

In the arterial system there are no variations dependent upon the movements of respiration, or they are very slight, amounting to 0·01—0.06°, and connected with the changes in the right cavities of the heart, and the cooling of the blood in its passage from the lungs.

In dead animals, the temperature of the blood of the right ventricle exceeds that of the left by 0·16°. In two experiments, however, the temperature was found the same in both cavities. The temperature of the blood of the vena cava abdominalis was once, upon opening the chest, found 1·72° higher than that of the thoracic portion of the carotid during life. The same observations were repeated in several experiments. The blood of the vena cava abdominalis, which comes from the capillaries of the lower extremities, and of some of the abdominal viscera, is the warmest blood in the body, even in animals where the heart has been emptied by bleeding, and to this point the author attaches great importance.

It would be desirable to know the amount of cooling which the blood undergoes in its passage through the lungs; but the subject is fraught with difficulty. The fact, however, if established, is most important, inasmuch as the source of animal heat has been referred by many to the organs of respiration. As regards the warmth of the blood in the vena cava abdominalis, it must be remembered, that the vessel lies imbedded in soft, highly organised parts, where, under all circumstances, heat is retained for a longer time than in other parts of the body; and perhaps this fact will explain the cause of the warmth of blood in that vessel as satisfactorily as any theory of changes going on in the capillary system. —*Med. Times, from Schmidt's Jahrb.*, 1853.

The Determination of Urea. By Professor LIEBIG.—The new method proposed by Liebig has the advantage of simultaneously determining the amount of chlorine and of urea. It is as follows: 100 grammes of mercury carefully purified from bismuth and lead, are dissolved in pure nitric acid; the salt is evaporated to a syrup like consistence, and then enough water is added to reach accurately to 1400 cubic centimetres. Every 100 cubic centimetres contains 7.140 grammes of mercury. If this solution be added to a solution of pure urea, a *snow-white* precipitate falls, which is a compound of urea and oxide of mercury (U+4HgO.) When the urea is all precipitated, and when consequently, nitrate of mercury is the solution, a *yellow* precipitate, hydrated oxide is thrown down by the addition of a little carbonate of soda to a drop of the urea. In order to determine the exact moment when the yellow precipitate occurs, the solution of the nitrate of mercury is of course added drop by drop from a burette, and from time to time a drop of the urine is taken and tested with the soda. One cubic centimetre of the solution corresponds to 10 milligrammes of urea, and from the quantity used, the amount of urea is calculated.

Although nitrate of mercury will thus precipitate urea, the bichloride will not do so, and on this fact is founded the determination of the chlorine. If the solution of urea be not pure, but mixed with chloride

of sodium, no precipitate at first occurs with the nitrate of mercury, because sublimate is formed; if the nitrate continue to be added, then at last, the chloride being exhausted, the mercury combines with urea, as in the pure solution. Therefore the quantity of solution used before the white precipitate appears, shows the amount of chlorine which must have combined with the mercury first of all. A cubic centimetre of the mercurial solution corresponds to 10 milligrammes of chloride of sodium.

In testing urine the phosphoric and sulphuric acids are first precipitated with barytic water; and after filtration, the urine is weakly acidified with nitric acid.

Although both the chlorine and the urea *may* be determined by the *same* quantity of urine, it is advisable to use two portions, one for the chlorine and one for the urea. The quantity of nitrate used for the chlorine alone in the first specimen, can be deducted from that used for the urea and chlorine together in the second, and the remainder gives, of course, the quantity which has been used for the urea.—*Brit. and For. Med.-Chir. Review*, from *Annalen d. Chem. und Pharm.*, Band lxxxv. 1853.